



**SCIENCE & NATURAL HISTORY**

*South Kensington*

*27 April 2017*

**CHRISTIE'S**



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**20-27 APRIL  
UPRISING!  
GEOPOLITICAL  
SNAPSHOTS OF THE  
20TH CENTURY  
ONLINE**

**26 APRIL  
THE GIANCARLO  
BELTRAME LIBRARY  
OF SCIENTIFIC BOOKS,  
PART III  
KING STREET**

**20 MAY  
BANDE DESSINÉE ET  
ILLUSTRATION  
PARIS**

**15 JUNE  
FINE PRINTED BOOKS  
AND MANUSCRIPTS,  
INCLUDING AMERICANA  
NEW YORK**

**15 JUNE  
THE ORNITHOLOGICAL  
LIBRARY OF GERALD  
DORROS, MD  
NEW YORK**

**15 JUNE  
THE METROPOLITAN  
OPERA GUILD  
COLLECTION  
NEW YORK**

**12 JULY  
VALUABLE BOOKS  
& MANUSCRIPTS  
KING STREET**

## SCIENCE & NATURAL HISTORY

THURSDAY 27 APRIL 2017



James Hyslop



Robert Tyrwhitt

### AUCTION

Thursday 27 April 2017  
at 10.30 am Lots 1-202  
85 Old Brompton Road  
London SW7 3LD

### AUCTION CODE AND NUMBER

In sending absentee bids or making enquiries, this sale should be referred to as **DRAGONFLY-14420**

### VIEWING

Friday	21 April	9.00 am – 5.00 pm
Saturday	22 April	11.00 am – 5.00 pm
Sunday	23 April	11.00 am – 5.00 pm
Monday	24 April	9.00 am – 7.30 pm
Tuesday	25 April	9.00 am – 5.00 pm
Wednesday	26 April	9.00 am – 5.00 pm

### AUCTIONEER

Nick Martineau

### STORAGE AND COLLECTION

Please refer to the important notice on page 141. Please note that Cadogan Tate's opening hours are Monday to Friday 9am to 5pm, and purchases transferred to their warehouse are not available for collection at weekends.

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@christies.com (eg. Robert Tyrwhitt =  
rtyrwhitt@christies.com.)

For general enquiries about this auction,  
email should be addressed to the  
Sale Coordinator.

Front cover: Lot 193

Back cover: Lot 133

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### CONDITIONS OF SALE

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Conditions of Sale and to Reserves

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For an overview of the process,  
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[15]

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**CHRISTIE'S**

## FOSSILS AND MINERALS (LOTS 1-174)



1

**A FOSSIL DRAGONFLY**  
SOLNHOFEN, GERMANY

From the Jurassic (circa. 150 million years ago), the 3½-inch long specimen of an *Stenophlebia* sp. in matrix with long dendritic vein.

10 x 9in. (26 x 23cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700

\*2

**A SPECIMEN OF LABRADORITE**  
MADAGASCAR

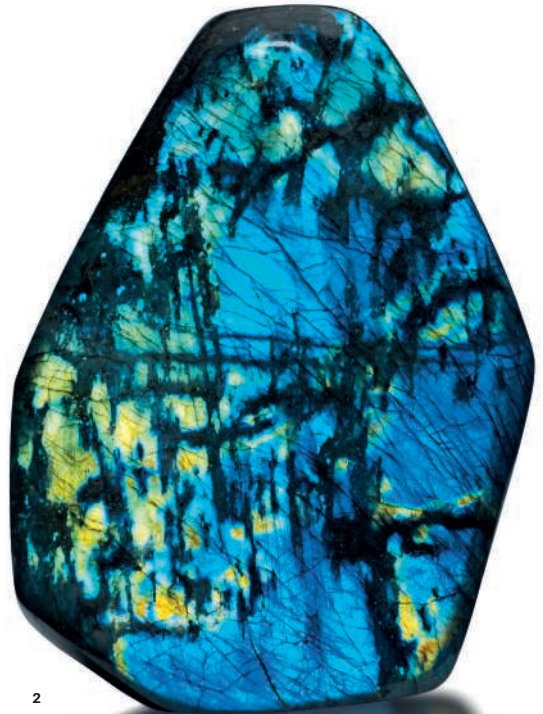
The free-form polished on all sides, the front with strong flashes of iridescence of blues with yellows and greens.

11½in. (24cm.) high

£1,000-1,500

\$1,300-1,900

€1,200-1,700





3

3

**A GROUP OF FIVE MINERALS SPECIMENS**

Blue barite from Baia Sprie; Apatite from Otter lake of Hexagonal dipyramidal form on matrix; Green tourmaline on stand; a Stibnite "hedgehog"; Rubellite on stand.

3½in. (9cm.) the tallest

(5)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



4

\*4

**BENITOITE AND NEPTUNITE**

SAN BENITO, CALIFORNIA

Of natural form from the Dallas Gem Mine, New Idria District, blue benitoite crystals and dark, reddish brown prisms of neptunite crystals on a white natrolite matrix.

8½in. (21.5cm.) wide

£4,000-6,000

\$5,000-7,500

€4,700-6,900

From a now defunct locality, this large, well-balanced specimen of benitoite (state gemstone of California) and neptunite has excellent contrasts and colours.

5



5

**\*5**  
**A SPECIMEN OF LABRADORITE**  
MADAGASCAR

The free form polished on all sides showing iridescence of gold yellows with veins of dark blue.  
12in. (31cm.) high

£1,000-1,500

\$1,300-1,900

€1,200-1,700

**6**  
**AN AMMONITE**  
MADAGASCAR

*Lytoceras* sp. from the Jurassic (201-145 million years ago)  
11½in. (28cm.) diameter.

£700-1,000

\$880-1,200

€810-1,200



6



\*7

**YELLOW FLUORITE**

SPAIN

From Villabona Mine, Asturias, the tower of yellow crystals with an intense hue and lustre.

6¼in. (16cm.) high

£1,500-2,500

\$1,900-3,100

€1,800-2,900



7



8

8

**A SPHERE OF ZEBRA JASPER**

MADAGASCAR

The 6½-inch sphere on a stand.

£1,500-2,500

\$1,900-3,100

€1,800-2,900

**\*9**

**A SPECIMEN OF AQUAMARINE**

**BRAZIL**

Of natural form, a single, tall Aquamarine crystal from Doce Valley, Minas Gerais.

5¼in. (13.5cm.) long

£4,500-7,000

\$5,700-8,700

€5,200-8,100

A rare survival: the high amount "gem grade" material in this piece would usually have seen it selected for cutting into one or more gemstones to be used in jewellery, had it not been rescued by a mineral enthusiast.



9

**\*10**

**A FINE SPECIMEN OF PYRITE**

**PERU**

From the Huanzala Mine, Ancash Department, the complex of cubic crystals displaying a rich lustre, supported on lucite base.

7in (18cm.) high

£4,000-6,000

\$5,000-7,500

€4,700-6,900



10

11

**A MALACHITE STALAGMITE**  
KATANGA PROVINCE

The botryoidal crystal form to exterior, the top opened to reveal concentric rings.  
7in. (18cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800



11

12

**A CITRINE GEODE**  
BRAZIL

Of deep hollow concave form, the colour formed by modern heating.  
34in. (86cm.) high

£2,000-3,000

\$2,500-3,700

€2,400-3,500



12



13

■13  
**AN ORANGE AMMONITE GROUP**  
BELMONT, FRANCE

From the Late Jurassic (circa 150 million years ago) a fossil scallop with ammonites, the largest a 13-inch

*Lytoceras dilucidum*.

24in. (61cm.) high

£1,500-2,500

\$1,900-3,100

€1,800-2,900

■14  
**AN ENGLISH AMMONITE**  
CHARMOUTH, DORSET

From the lower Jurassic (191-183 Mya), the 8-inch specimen of *Liparoceras sp.* from the Lower Lias with clear suture lines, prepped in its nodule and supported on custom iron stand.

19in. (49cm.)

£1,500-2,500

\$1,900-3,100

€1,800-2,900



14



15

**15**  
**A FOSSIL GUITARFISH**  
 LEBANON

From the late Cretaceous (circa 95 million years ago) the 12-inch *Rhynobatos hakeleensis*.  
 6¾ x 15½in. (17 x 39cm.)

£700-1,000

\$880-1,200

€810-1,200

**16**  
**A SPHERE OF FOSSIL WOOD**  
 OREGON

The jasper replaced petrified "bog wood" with flashes of purple to the orange red and white colours.  
 8in. (20cm.) diameter

£1,000-1,500

\$1,300-1,900

€1,200-1,700



16

**17**  
**A SPHERE OF PETRIFIED WOOD**  
 OREGON

The "bog wood" heavily replaced by jasper, with cavities and caverns of crystals to the surface.  
 8in. (20cm.) diameter

£800-1,200

\$1,000-1,500

€930-1,400



17

**18**  
**AN AMETHYST GEODE**  
ARTIGAS, URUGUAY

Of concave form, one side cut and polished to reveal the dark purple crystals of amethyst.  
23in. (58.5cm.) long

£1,000-1,500

\$1,300-1,900  
€1,200-1,700



18

**19**  
**A SMALL AMETHYST GEODE**  
MADAGASCAR

Of natural hollow form, the top cut and polished to reveal internal chamber  
13in. (33cm.) long

£800-1,200

\$1,000-1,500  
€930-1,400



19

\*20

**A SPLIT AMMONITE WITH CHAMBERS OF CALCITE AND PYRITE**

VOLGA RIVER, RUSSIA

*Speetoniceras* sp. from the Jurassic (200-145 million years ago) split and polished to reveal internal chambers, supported on custom stands.

11in. (18cm.) diameter

£1,500-2,500

(2)

\$1,900-3,100

€1,800-2,900

■21

**AN AMETHYST GEODE**

MINAS GERAIS, BRAZIL

Of tall hollow concave form.

44in. (112cm.) high

£800-1,200

\$1,000-1,500

€930-1,400



20



20



21



22

**22**  
**A FOSSIL CRAB**  
ITALY

*Harpactocarcinus sp.* from the Eocene (56-38 million years ago)  
the well preserved specimen with eight legs, on stand.  
8in. (21cm.) wide

£1,500-2,500

\$1,900-3,100  
€1,800-2,900

**23**  
**PYRITE WITH QUARTZ**  
PERU

The crystals of quartz snowflaking around the pyrite, on fitted  
stand.  
16in. (41cm.) wide

£700-1,000

\$880-1,200  
€810-1,200



23



■24

**A LARGE SPECIMEN OF FIBROUS MALACHITE**  
MASHAMBER WEST MINE, KATANGA PROVINCE

Of natural form with deep caverns and holes, supported on stand.  
17in. (43cm.) wide

£5,000-8,000

\$6,300-10,000

€5,800-9,200





25

**25**  
**THREE MINERAL SPECIMENS**

Wulfenite and hydrozincite from Santa Maria del Oro, the larger amethyst crystal with an old collection number '20', the amethyst cluster with old collection number '40'.  
7½in. (19cm.) the widest

£1,500-2,500

(3)  
\$1,900-3,100

€1,800-2,900

**27**  
**A GROUP OF FOSSIL AMMONITES**  
BELMONT, FRANCE

From the Late Jurassic (circa 150 million years ago) fossil scallops and belemnites with ammonites, the largest *Hammatoceras* sp. of 9-inch diameter.  
25 x 18in. (64 x 46cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



26

**26**  
**A SPECIMEN OF PETRIFIED WOOD**  
NORTHERN ARIZONA, USA

*Araucarioxylon arizonicum* from the late Triassic (circa 225 million years ago), the slice cut and polished to reveal internal structure with strong colours.  
19 x 15 x 8in. (48 x 38 x 20 cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



27



28

**28**  
**CUBIC PYRITE CRYSTALS**  
SPAIN

The 2-inch and smaller crystals of pyrite in their original matrix, supported on glazed plinth.  
10in. (26cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800



29

**29**  
**A JASPER FREEFORM**  
MADAGASCAR

The polished surfaces interspersed with areas of fine crystals and cavities, supported on custom stand.  
21½in. (54cm.) high

£2,500-3,500

\$3,200-4,400

€2,900-4,000



30

**\*30**  
**A SPECIMEN OF LABRADORITE**  
MADAGASCAR

The front polished side with strong flashes of iridescence, rich blues with silvery greens and yellows, the reverse left in natural state with flat cut base.

13in. (34cm.) high

£1,000-1,500

\$1,300-1,900

€1,200-1,700

**■31**  
**A SPLIT SEPTARIAN CONCRECTION**  
BELGIUM

Cut and polished to reveal internal calcite and aragonite structures, each supported on fitted custom stand.

17in. (44m.) long

(2)

£2,000-3,000

\$2,500-3,700

€2,400-3,500

Septerian nodules are clay concretions into which mineral rich fluid has intruded, forming calcite crystals, over thousands of years the calcite is partially dissolved to leave the cracked pattern we see when opened.



18



31



32

**32**  
**THREE SPECIMENS OF ORBICULAR JASPER**  
 MADAGASCAR

Of spherical form.  
 5in. (13cm.) largest  
 £1,000-1,500

(3)  
 \$1,300-1,900  
 €1,200-1,700

**33**  
**SPECIMEN OF MALACHITE**  
 KATANGA PROVINCE

Of natural form, with natural holes between concretionary form to top.  
 16in. (41cm.) high on stand  
 £2,000-3,000

\$2,500-3,700  
 €2,400-3,500



33



34



35

■34  
A SPECIMEN OF "WONDERSTONE"  
UTAH

The carved form with holes.  
23in. (59cm.) high

£700-1,000

35  
AN AMETHYST GEODE  
BRAZIL

Of hollow concave form, the front cut and polished.  
14½in. (37cm.) high

\$880-1,200

€810-1,200

£800-1,200

\$1,000-1,500

€930-1,400

■36

**A CHRYSOCOLLA SPECIMEN**

ARIZONA

The free-form with polished front face.  
12in. (30cm.) high

£4,000-6,000

\$5,000-7,500

€4,700-6,900



36

37

**A SPECIMEN OF CHALCEDONY**

MADAGASCAR

The white free-form polished in parts to reveal deep  
blue colours, on custom stand.

9in. (23cm.) high

£700-1,000

\$880-1,200

€810-1,200



37



37 (end detail)



38

**38**  
**A LARGE SPECIMEN OF ROSE QUARTZ**  
 MADAGASCAR

Of bowl form, cut from one piece and polished.  
 13in. (34cm.) wide

£1,000-1,500

39

**A GROUP OF MINERAL SPECIMENS**  
 INDIA, ROMANIA, PERU, PORTUGAL, UNITED KINGDOM

The group consisting of apophyllite on stilbite, stibnite, quartz, apatite, and green fluorite, all of natural form.  
 6½in. (16.5cm.) the widest

£1,500-2,500

(5)

\$1,900-3,100

€1,800-2,900

\$1,300-1,900

€1,200-1,700



39





40

▲40

**A GROUP OF MINERAL SPECIMENS**

BRAZIL, URUGUAY, MADAGASCAR, USA, TANZANIA AND AFGHANISTAN

The amethyst of natural form with deep purple colour; the topaz of natural form; the green tourmaline in two sections of natural form ; the pink rubellite crystal of natural form on a custom stand; the scapolite crystal of natural form with yellow colouring; the pale pink kunzite of natural form with typical vertical striations; the emerald of natural form.

4¼in. (11cm.) the widest

(8)

£1,000-1,500

\$1,300-1,900

€1,200-1,700

■41

**AN AMETHYST GEODE**

MINAS GERAIS, BRAZIL

Of shallow concave form, the dark purple amethyst with white calcite crystals, the reverse painted.

36in. (92cm.) high

£1,500-2,500

\$1,900-3,100

€1,800-2,900



41



42

**42**  
**CLUSTER OF CALCITE CRYSTALS**  
 CHINA

Of natural form supported on fitted base.  
 15in. (48cm.) high

£500-800

\$630-1,000

€580-920



43

**\*43**  
**A SPECIMEN OF LABRADORITE**  
 MADAGASCAR

The free-form polished on all sides showing iridescence of  
 yellows, silvery blues and greens on front face.  
 12 x 9in. (31 x 23cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



44

**\*44**  
**A SPECIMEN OF FLUORITE**  
 TENNESSEE, USA

From Elmwood Mine, Carthage, Central  
 Tennessee Ba-F-Pb-Zn District, Smith  
 Co., the attractive cluster of sharp cubic  
 fluorites, with purple colour and lustre.  
 8in. (20cm.) wide

£1,500-2,500

\$1,900-3,100

€1,800-2,900

The old Elmwood Zinc mine is one of  
 the most famous in the world for classic  
 old American material, of fluorite and  
 sphalerite, calcite, and barite. This  
 specimen was collected in the 1980s  
 and remains in fine condition.



45

**45**  
**A CELESTITE GEODE WITH NATURAL BRIDGE**  
MADAGASCAR

Of concave form, a fine specimen of large crystals with a natural internal bridge, from, Katsepy Commune, Mitsinjo Department, Boeny Region, Mahajanga Province, supported on stand.  
14in. (35cm.) wide

£5,000-8,000

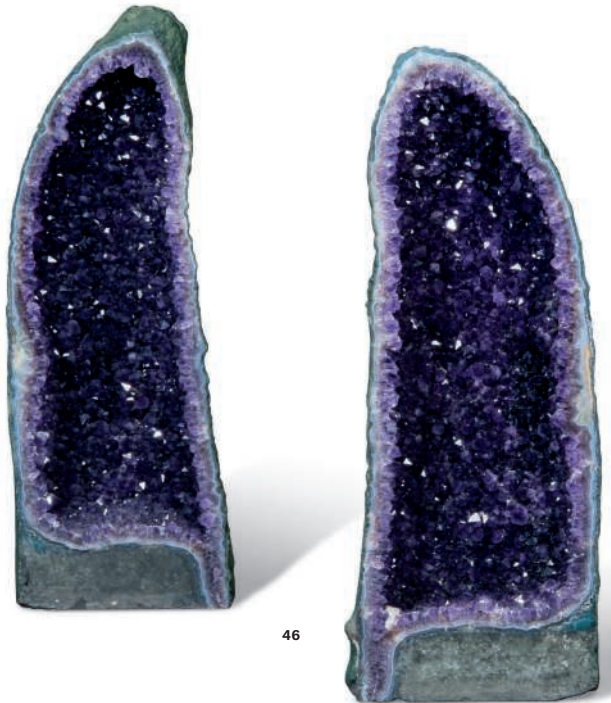
\$6,300-10,000  
€5,800-9,200

**46**  
**A SPLIT AMETHYST GEODE PAIR**  
RIO GRANDE DO SUL, BRAZIL

Of hollow concave form, each cut and polished.  
32in. (80cm.) tall (2)

£1,500-2,500

\$1,900-3,100  
€1,800-2,900



46



47

**\*47**  
**A SPECIMEN OF BOTRYOIDAL FLUORITE ON QUARTZ**  
 CHINA

Of natural form from Dongqiyishan Fluorite deposit, Alxa League, China, the deep blue crystals of fluorite on top of white quartz.

8in. (20cm.) wide

£5,500-8,000

\$6,900-10,000

€6,400-9,200

The quartz has a "candle" type formation with many smaller terminations leading toward the top terminations resembling the manner in which a candle drips wax as it burns. The multi-generations of fluorite crystals appear to have grown cubically and then modified into dodecahedrons that now resemble blueberries. A fine example.

**\*48**  
**FERBERITE AND FLUORITE**  
 PORTUGAL

Of natural form, the fluorite crystals see flowing down from the crown of this piece alongside the edges framing the ferberite, from Panasqueira Mine, Couto Mineiro da Panasqueira, Panasqueira, Covilhã, Castelo Branco District.

5in. (13cm.) wide

£2,500-4,000

\$3,200-5,000

€2,900-4,600



48

49

**QUARTZ AND GALENA ON CHALCOPYRITE**

MADAN, BULGARIA

Supported on metal stand.  
12in. (31cm.) high

£1,500-2,500

\$1,900-3,100

€1,800-2,900



49

50

**AN AMETHYST GEODE**

URUGUAY

Two faces cut and polished to reveal different crystal forms,  
supported on custom stand.

12in. (30cm.) high on stand

£800-1,200

\$1,000-1,500

€930-1,400



50



51

51

**A GROUP OF MINERAL SPECIMENS**

The naturally terminated aquamarines from Brazil, Calcite of natural form, botryoidal Malachite with old collection label '119', Smithsonian with old collection label '111'.

5in. (12.8cm.) the widest

£1,800-2,500

(4)

\$2,300-3,100

€2,100-2,900

■\*52

**A LARGE BOWL OF RHODONITE**  
TAMWORTH, AUSTRALIA

The specimen cut and polished into tall bowl form.  
21in. (54cm.) high

£5,000-8,000

\$6,300-10,000

€5,800-9,200



52

■53

**A FOSSIL PANEL TABLE TOP**  
MOROCCO

The polished marble top from the Devonian (414-345 million years ago) with specimens of *Orthoceras sp.*, on a glass and chrome low table.

47in. (120cm.) long

£1,000-1,500

\$1,300-1,900

€1,200-1,700



53



54

■54  
**A PAIR OF PETRIFIED WOOD SPECIMENS**  
INDONESIA

From the Miocene (circa 20 million years ago) the 55-cm diameter specimens cut and polished, sitting atop table-stands. 20in. (51cm.) high (2)

£1,200-1,800

\$1,500-2,200

€1,400-2,100

■55  
**A LARGE SLICE OF PETRIFIED WOOD**  
INDONESIA

From the Miocene (circa 20 million years ago) sliced longitudinally and polished. 65in. (165cm.) long

£800-1,000

\$1,000-1,200

€930-1,200



55

**56**  
**AN IRIDESCENT AMMONITE**  
SOUTH DAKOTA

From the upper Cretaceous, Fox Hills Formation, (circa 65 million years ago) the specimen of *Sphenodiscus splendens* showing opal like iridescence of red, green, turquoise and purple to both sides, supported on an acrylic stand.

10in. (25cm.) diameter

(2)

£6,000-8,000

\$7,500-10,000

€7,000-9,200



56 (front)



56 (reverse)

**57**  
**A RARE FOSSIL TURTLE**  
GREEN RIVER, WYOMING

From the Eocene (circa 50 million years ago) the 9-inch specimen of a soft-shelled *Trionyx* sp. very finely preserved with the skull and majority of leg bones intact, supported in frame.

24 x 21in. (61 x 54cm.)

£12,000-18,000

\$15,000-22,000

€14,000-21,000







58



58

**58**  
**A SPLIT AMMONITE**  
 MADAGASCAR

A *Cleonicerias sp.* from the early Cretaceous (approx. 135 million years ago), split and polished to reveal inner chambers of calcite. 10in. (25cm.) (2)

£800-1,200

\$1,000-1,500

€930-1,400

**59**  
**AN AMMONITE**  
 MADAGASCAR

From the early Cretaceous (circa 135 million years ago), the specimen of *Cleonicerias sp.* with white and brown calcites polished on both sides, preserving fine structure of suture lines, on stand.

13in. (33cm.) diameter

£1,200-1,800

\$1,500-2,200

€1,400-2,100



59



■60

**A LARGE GEODE WITH QUARTZ STALACTITES**

BRAZIL

Of deep hollow concave form with stalactites up to 9-inch long.  
49in. (125cm.) high

£12,000-18,000

\$15,000-22,000

€14,000-21,000



■\*61

**AN AMMONITE**

MADAGASCAR

From the Jurassic (201-145 million years ago) the well preserved *Kranaosphinctes rabei* on custom stand.

16in. (40cm.) diameter

£1,500-2,500

\$1,900-3,100

€1,800-2,900

\*62

**A LARGE PYRITISED SPLIT AMMONITE**

VOLGA RIVER, RUSSIA

*Speetoniceras* sp. from the Jurassic (200-145 million years ago) split and polished to reveal internal chambers, supported on custom stands.

13in. (34cm.) diameter

(2)

£1,500-2,500

\$1,900-3,100

€1,800-2,900

61



62



62



63

**63**  
**THE SLAB AND COUNTER SLAB OF A FOSSIL LOBSTER**  
 SOLNHOFEN, GERMANY

From the Jurassic (circa 150 million years ago), the 4-inch *Eryon* sp. very finely preserved on both sides of original limestone matrix.

10 x 10 in. (26 x 26cm.) each

(2)

£2,000-3,000

\$2,500-3,700

€2,400-3,500

**64**  
**A LARGE AMMONITE**  
 MADAGASCAR

From the Jurassic (201-145 million years ago) the well preserved *Kraenosphinctes rabei* on custom stand.

16in. (41cm.) diameter

£1,000-1,500

\$1,300-1,900

€1,200-1,700



64



65

**65**

**A TRANSITIONAL SLICE OF SEYMCHAN METEORITE  
DISCOVERED IN RUSSIA, 1967; MODERN CUTTING**

A highly aesthetic Seymchan transitional pallasite and a notable example of the textural heterogeneity of the Seymchan meteorite. The metal-rich areas display a prominent *Widmanstätten* pattern and represent the olivine-free region at the top of the iron-nickel core. The olivine-rich aggregates were derived from a fragmented olivine layer at the bottom of the mantle that was invaded by a metallic liquid during mixing at the core-mantle boundary; supported on fitted stand.

7½ x 7½in. (19 x 19cm.)

£3,000-5,000

\$3,800-6,200

€3,500-5,800

Seymchan is an unusual and remarkable pallasite; large portions of the rock are olivine free. Pallasites are formed at the core-mantle boundary of an asteroid that experienced melting: molten metal from the core mixed with olivine crystals settling downwards from the mantle.



66

**66**

**A CAMPO DEL CIELO METEORITE  
GRAN CHACO GUALAMBE, ARGENTINA**

A complete iron meteorite, coarse octahedrite – IAB-MG; the surface with deep natural grooves and crenellations that are accented by a dusky platinum-hued patina.

7in. (18cm.) wide

£1,500-2,000

\$1,900-2,500

€1,800-2,300

This great meteorite was first discovered by Spanish explorers in Chaco, Argentina in 1572. Thousands of pieces have been found near the point of impact, the largest weighing an immense 37 tons. It has been determined from carbon dating, taken from charred wood remains from the crater, that the fall occurred between 4,000 and 6,000 years ago. The cosmic radiation of the Meteorite mass was found to be relatively young at approximately 14 Million years old.



**67**

**A PARTIAL PALLASOVKA SLICE**

DISCOVERED IN 1990, VOLOGRAD DISTRICT RUSSIA

The stony-iron specimen features crystals of olivine and peridot suspended in a highly polished metallic matrix, on fitted stand.

8in. (21cm.) long

£3,000-5,000

\$3,800-6,200

€3,500-5,800



68

**68**  
**A SPINY TRILOBITE**  
 MOROCCO

The 3-inch *Comura sp.* from the Devonian (419-359 million years ago).

5in. (13cm.) wide in matrix

£800-1,200

\$1,000-1,500

€930-1,400

**69**  
**A LARGE THREE DIMENSIONAL TRILOBITE**  
 MOROCCO

From the Arenig early Ordovician (circa 480 million years ago) the 8-inch *Megistaspis hammondi* possibly a predatory trilobite.

5in. (13cm.) high

£1,000-1,500

\$1,300-1,900

€1,200-1,700



69

**70**  
**A TRIDENT-BEARING TRILOBITE**  
 MOROCCO

From the Devonian (419 - 359 Mya), the specimen of *Walliserops trifurcatus* with fine three-dimensional preservation including of the spines and eyes, in the same matrix as another trilobite, housed in a glazed stand.

9½ x 9½ x 9½ (24 x 24 x 24cm.)

£2,000-3,000

\$2,500-3,700

€2,400-3,500



70





71

71

**A GIBEON METEORITE**

DISCOVERED IN NAMALAND, NAMIBIA, 1836

The specimen with patina from terrestrialisation, former collection number painted to reverse 'M37.807', sitting on custom bronze stand.

6in. (16cm.) long

£2,000-3,000

\$2,500-3,700

€2,400-3,500

72

**A LARGE TRILOBITE**

MOROCCO

From the mid Cambrian (509 - 497 million years ago), a 13-inch specimen of *Acadoparadoxides briareus* in matrix.

23 x 19in. (59 x 48cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



72



■73

**A TRILOBITE PLAQUE**

MOROCCO

From the mid-Cambrian (approx. 500 mya), the largest a 15-inch specimen of *Paradoxides sp.*, placed in matrix, supported in frame.  
39 x 26in. (99 x 66cm.)

£1,500-2,500

\$1,900-3,100

€1,800-2,900



74

**74**  
**TWO IRIDESCENT ENGLISH AMMONITES**  
SOMERSET

*Caloceras johnstoni* from the Hettangian, Jurassic (circa 200 million years ago).  
10in. (25cm.) high

£700-1,000

\$880-1,200

€810-1,200



75

**75**  
**A SMALL SLICE OF PETRIFIED WOOD**  
NORTHERN ARIZONA

*Araucarioxylon arizonicum* from the Triassic (circa 225 million years ago) sliced and polished to the front to reveal internal structure with quartz crystals and colours of reds, oranges, yellows and pinks, texture all around circumference.  
10in. (26cm.) wide

£500-800

\$630-1,000

€580-920

**76**  
**A LARGE TRICERATOPS HORN**  
HELL CREEK FORMATION, NORTH DAKOTA

From the Maastrichtian, late Cretaceous (68-65 million years ago), a brow horn from a *Triceratops sp.* with some facsimile casting, on custom stand.  
24½in. (62cm.)

£4,000-6,000

\$5,000-7,500

€4,700-6,900



76



77

**\*77**  
**FINE CRYSTALLINE GOLD**  
NEVADA

The crystals of multiple natural forms, including octahedral, hexahedral and some displaying spinel-law twinning, from Round Mountain Mine, Round Mountain District, Nye Co. 2in. (5cm.) long

£7,000-10,000

\$8,800-12,000

€8,100-12,000



78

**78**  
**SLICE OF AN AMETHYST STALAGMITE**  
URUGUAY

An unusually large specimen, cut and polished to reveal agate centre, on fitted stand.

5¼in. (13cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



**79**

**A SPECIMEN OF CALCITE ON AMETHYST  
URUGUAY**

Of natural form, the amethyst with three sceptres of calcite, two with secondary crystallisation of smaller crystals the larger of form resembling the Eiffel Tower.

9 x 8½ x 7½in. (23 x 22 x 19cm.)

£6,000-8,000

\$7,500-10,000

€7,000-9,200



■80

**A SLICE OF PETRIFIED WOOD**

STINKING WATER CREEK, OREGON

From the Miocene (circa 10 million years ago), the polished slice of an oak supported with wall-mounting to reverse.

21½in. (54cm.) long

£4,000-6,000

\$5,000-7,500

€4,700-6,900

Buried under volcanic ash over 10 million years ago, the minerals in this tree were turned to stone over time. Remarkably the growth rings are still preserved, and have taken on a striking colour.



**81**

**A SLICE OF RHODOCHROSITE**

MODERN CUTTING

The slice cut thinly to be displayed when backlit, on custom fitted stand.

18in. (46cm.) high

£5,000-8,000

\$6,300-10,000

€5,800-9,200

■\*82

**A LARGE SPHERE OF BANDED IRON TIGER EYE**

MT BROCKMAN STATION, AUSTRALIA

From the early Proterozoic (circa 2.5 billion years ago) the panel of Marra Mamba iron formation cut and polished to form a sphere.

12in. (30cm.) diameter

£8,000-12,000

\$10,000-15,000

€9,300-14,000

Found only in the blue crocidolite seams of the Hamersley Range in the Pilbara region of Western Australia, this highly iridescent ironstone, Marra Mamba, is amongst the rarest and most colourful of all Tiger-eye. Probably stromatolitic in origin, this fossil is amongst the earliest signs of life on Earth, and as a semi-precious stone is also one of the most beautiful.







83

**A BITTEN AMMONITE**

SOUTH DAKOTA

From the upper Cretaceous, Fox Hills Formation, (circa 65 million years ago) the specimen of *Sphenodiscus splendens* showing opal like iridescence, with pathological markings from a bite, possibly from a Mosasaur. 13in. (33cm.) diameter

£15,000-25,000

\$19,000-31,000

€18,000-29,000

The shimmering, metallic colours were caused by the combination of millions of years of compression and the mineralisation of iron, copper and silica which precipitated from volcanic ash. The opalescent layers of colour are particularly prized in the Chinese philosophical system of Feng-Shui.

The ammonites are a group of animals that lived in the seas from the mid-Devonian (approximately 400 million years ago) to the end of the Cretaceous. The sequence of events that famously killed off the dinosaurs also drove the ammonites to extinction.

■\*84

**A FOSSIL LEAF MURAL**  
GREEN RIVER, WYOMING

From the Eocene (circa 50 million years ago), 27 specimens of multiple species on a mosaic of tiles, mounted on an iron frame to reverse.

48 x 72in. (122 x 183cm.)

£10,000-15,000

\$13,000-19,000

€12,000-17,000







■ 85

**A FOSSILISED GIANT PALM FROND**  
GREEN RIVER FORMATION, WYOMING

From the Eocene (circa 50 million years ago), a specimen of *Sabalites sp.* in limestone matrix supported on frame.

55 x 41½in. (140 x 105cm.)

£15,000-25,000

\$19,000-31,000

€18,000-29,000

The palms of the Green River Formation represent a flora bordering a warm freshwater lake 50 million years ago. Plant material is amongst the rarest in the fossil record, and these palms are amongst the largest and finest preserved.

86

**A FOSSIL LOBSTER**

SOLNHOFEN, GERMANY

A 6-inch *Eryon cuvieri* from the Jurassic (150 million years ago).

8½ x 7in. (22 x 18cm.)

£1,500-2,500

\$1,900-3,100

€1,800-2,900



86

87

**FOSSIL FISH IN PALM LEAVES**

GREEN RIVER, WYOMING

From the Eocene (circa 50 million years ago), the 5-inch *Priscacara* sp. placed into limestone of the block containing fronds of a *Sablites* sp., the reverse made ready for wall-mounting.

15 x 18in. (38 x 46cm.)

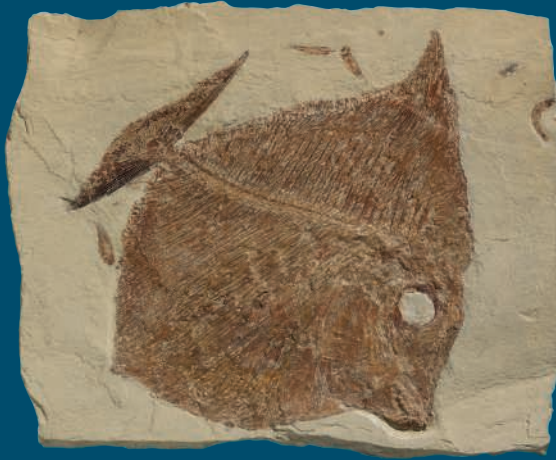
£2,500-3,500

\$3,200-4,400

€2,900-4,000



87



88

**88**  
**A FOSSIL RAY-FINNED FISH**  
LEBANON

From the Cenomanian, Upper Cretaceous (100-94 million years ago) the 9-inch long *Palaeobalistum goedeli* with teeth preserved in original matrix with small fish.  
9 x 11in. (23 x 28cm.)

£1,200-1,500

\$1,500-1,900

€1,400-1,700

**89**  
**A FOSSIL BOWFIN FISH**  
SOLNHOFEN, GERMANY

From the Jurassic (circa 150 million years ago) the 18-inch specimen of *Amiopsis lepidota* with teeth preserved, in original matrix with small starfish.  
20½ x 36in. (52 x 92cm.)

£3,500-5,500

\$4,400-6,900

€4,100-6,300



89



90

**\*90**

**A CUBE OF MUONIONALUSTA METEORITE**

DISCOVERED IN NORBOTTEN, SWEDEN, 1906; MODERN CUTTING

The cut surfaces displaying features a resplendent fine-grained Widmanstätten pattern, the product of the solid-state intergrowth of two different iron-nickel minerals – kamacite and taenite.

3½in. (9cm.) wide

€5,000-8,000

\$6,300-10,000

€5,800-9,200

**91**

**A PARTIAL SLICE OF THE BEAUTIFUL ESQUEL METEORITE**

DISCOVERED IN 1951, CHUBUT, ARGENTINA

The partial slice with highly translucent crystals of olivine and peridot suspended in a nickel-iron matrix, supported on custom stand.

5½in. (14cm.) wide

€4,000-6,000

\$5,000-7,500

€4,700-6,900

**92**

**A SEYMCHAN METEORITE SPHERE**

DISCOVERED IN RUSSIA, 1967; MODERN CUTTING

The 2¼-inch sphere revealing in three dimensions the internal crystal structure of the meteorite, supported on magnetic stand.

4in. (10cm.) high

€3,000-5,000

\$3,800-6,200

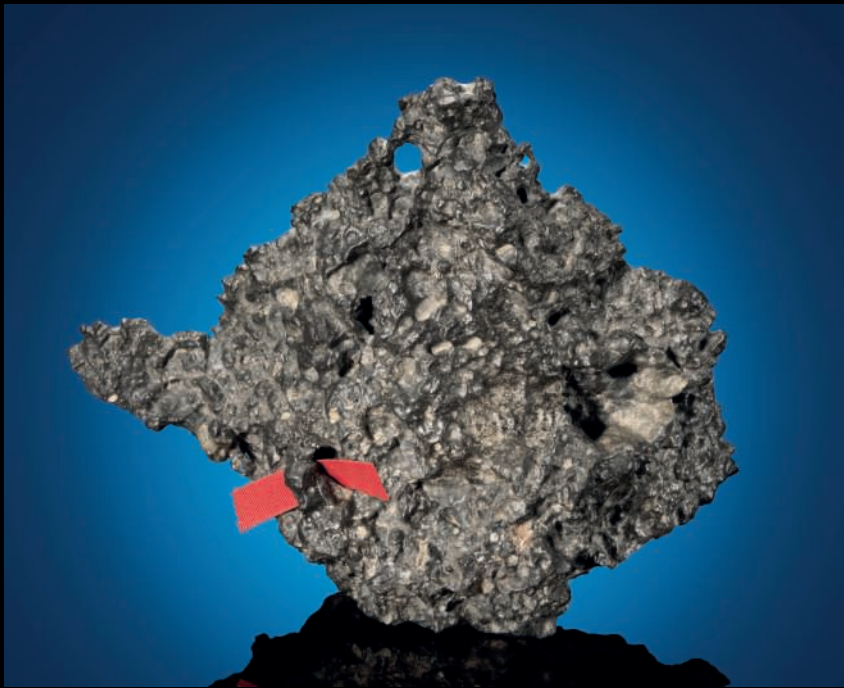
€3,500-5,800



91



92



(red ribbon to show location of hole)

\*93

**NWA 8306 — INTERIOR AND EXTERIOR OF A MOON  
ROCK WITH NATURAL HOLE**

LUNAR METEORITE (FELDSPATHIC, REGOLITHIC  
BRECCIA)

SAHARA DESERT, NORTH WEST AFRICA

The cut face evidences a galaxy of inclusions, the result of the ongoing pulverising of the Moon's surface by meteorite impacts prior to the collision responsible for launching this rock to Earth. The highly textured reverse is a result of natural sandblasting by desert winds over a period of centuries. Numerous variables such as the angle at which this rock sat on the desert floor, the direction of the wind and idiosyncrasies of the material itself (allowing softer components to erode out), produced the holes in what is a singular and noteworthy specimen of the Moon.  
121 x 101 x 39mm (4¾ x 4 x 1½in.)

305g

£40,000-60,000

\$50,000-75,000

€47,000-69,000

This is a unique end piece of a lunar meteorite, a rock that was ejected from the lunar surface following an asteroid impact. The Moon is among the rarest substances on Earth; there are less than 135 kilograms known to exist and just 0.4% of all meteorites are of lunar origin. As was mentioned in previous descriptions, Moon rocks are identified by specific textural, mineralogical, chemical and radiation signatures. Many of the common minerals found on Earth's surface are rare on the Moon and some lunar minerals are unknown on Earth. NWA 8306, the 8306th meteorite to be catalogued following its recovery in the Northwest African grid of the Sahara Desert, is a fine example of a feldspathic regolithic lunar breccia — a

rock formed at the lunar surface and composed of different fragments of rocks and minerals cemented together by lunar soil and other crushed rock. What sets this specimen apart, however, is that it contains naturally formed holes; these are a sought-after rarity in meteorites, and 99.9% of the time they occur only in iron meteorites. It is virtually unheard of that a naturally formed hole is seen in a stony meteorite—and such is the case in this exceptional sample of the Moon. NWA 8306 was classified by Dr. Anthony Irving, among the world's foremost classifiers of planetary material.







■94

**A LARGE FOSSIL PALM FLOWER AND FISH**  
GREEN RIVER, WYOMING

The flower of a *Sablites* sp. with multiple small fish from the Eocene (circa 50 million years ago), framed.  
54 x 27in. (137 x 69cm.)

£20,000-30,000

\$25,000-37,000  
€24,000-35,000



95

**95**  
**A FOSSIL FERN**  
OSNABRUECK, GERMANY

From the Carboniferous (359–299 million years ago) the *Neuropteris dussarti* in its original shale matrix.  
12 x 8½in. (30 x 21cm.)

£2,500-3,500

\$3,200-4,400

€2,900-4,000



96

**96**  
**A FOSSIL LOBSTER**  
LEBANON

From the Upper Cretaceous, (101-66 million years ago), the 8-inch specimen of *Palinurus sp.* preserved with three tiny fish in close proximity, with a larger fish.  
9 x 13in. (23 x 33cm.)

£2,000-3,000

\$2,500-3,700

€2,400-3,500



97

**97**  
**A FOSSIL STINGRAY**  
LEBANON

From the Upper Cretaceous, (101-66 million years ago), a 5¼-inch specimen of *Cyclobatis oligodactylus* with a fossil shrimp and fish in the same matrix.  
12 x 10in. (30 x 26cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



■98

**A DOUBLE FOSSIL SEALILY PLAQUE**

GERMANY

From the Lower Jurassic, Toarcian (174-182 million years ago) Posidonienschiefer Formation, Holzmaden Germany, the two curved specimens of *Seirocrinus subangularis* with large crowns (15 and 13 inches across), both placed in a stabilised matrix, anchored to flotsam. 67 x 35in. (170 x 90cm.)

£25,000-35,000

\$32,000-44,000

€29,000-40,000



99

**99**

**MUONIONALUSTA END-PIECE**

DISCOVERED IN NORBOTTEN, SWEDEN, 1906; MODERN CUTTING

Polished and to one side to reveal the fine example of the fine-grained *Widmanstätten* pattern, the product of the solid-state intergrowth of two different iron-nickel minerals. This crystalline structure can be seen on the exterior.

5½in. (14cm.) wide

£1,500-2,500

\$1,900-3,100

€1,800-2,900

**100**

**FRAGMENT OF FUKANG METEORITE**

DISCOVERED IN 2000, CHINA

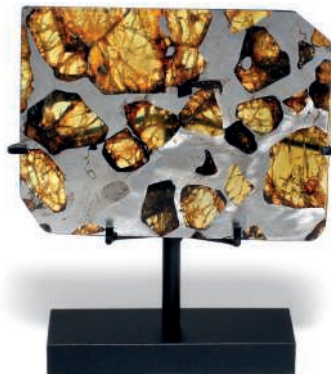
Large crystals of olivine in a nickel-iron matrix etched and polished to one side, on custom stand

3in. (7cm.) wide

£1,500-2,500

\$1,900-3,100

€1,800-2,900



100



101

**\*101**

**A COMPLETE CANYON DIABLO METEORITE**

DISCOVERED IN COCONINO COUNTY, ARIZONA, 1891

with varied patina, earthy tones to reverse and muted metallic lustre to front, old collection number '38' painted to base

5½ in. (14cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800

For further information on these lots see [www.christies.com](http://www.christies.com)



**\*102**

**HAND-AXE SHAPED GIBEON METEORITE ON CUSTOM ARMATURE**

*IRON, FINE OCTAHEDRITE*

*GIBEON, GREAT NAMA LAND, NAMIBIA*

This hand-axe shaped specimen is wrapped in a deep gunmetal patina with bright cinnamon-hued accents. Scalloping on all sides results in the tapered ridges delimiting this specimen.

Accompanied by a custom armature.

6 x 4¼ x 2in. (153 x 107 x 49mm.)

4¾lbs. (2.15kg)

£2,000-3,000

\$2,500-3,700

€2,400-3,500

Among the most spectacular iron meteorites known are the Gibeons found in Namibia's Kalahari Desert. Although familiar to the natives, who had hammered small pieces into weapons and tools, the Gibeon meteorite was not known to westerners until about 1836. Gibeon crystallised deep in the molten iron core of a large asteroid that was shattered by an enormous impact. What was to become the Gibeon mass was ejected into interplanetary space where it resided for millions of years until it impacted Earth. Gibeon meteorites vary widely in shape, which is due to a variety of variables including the composition of the meteorite, the chemistry of the soil in which it landed and its exposure to the elements as the seasons turned over thousands of years.



103

**103**  
**THE SLAB AND COUNTER SLAB OF A FOSSIL DRAGONFLY**  
SOLNHOFEN, GERMANY

From the Jurassic (circa 150 million years ago) the 5-inch specimen of *Libellulum longialatum* preserved on both sides of original limestone matrix.

10 x 12in. (26 x 31cm.)

£2,000-3,000

\$2,500-3,700

€2,400-3,500



104

**104**  
**A LARGE SPECIMEN OF PETRIFIED**  
**TREE TRUNK**  
NORTHERN ARIZONA

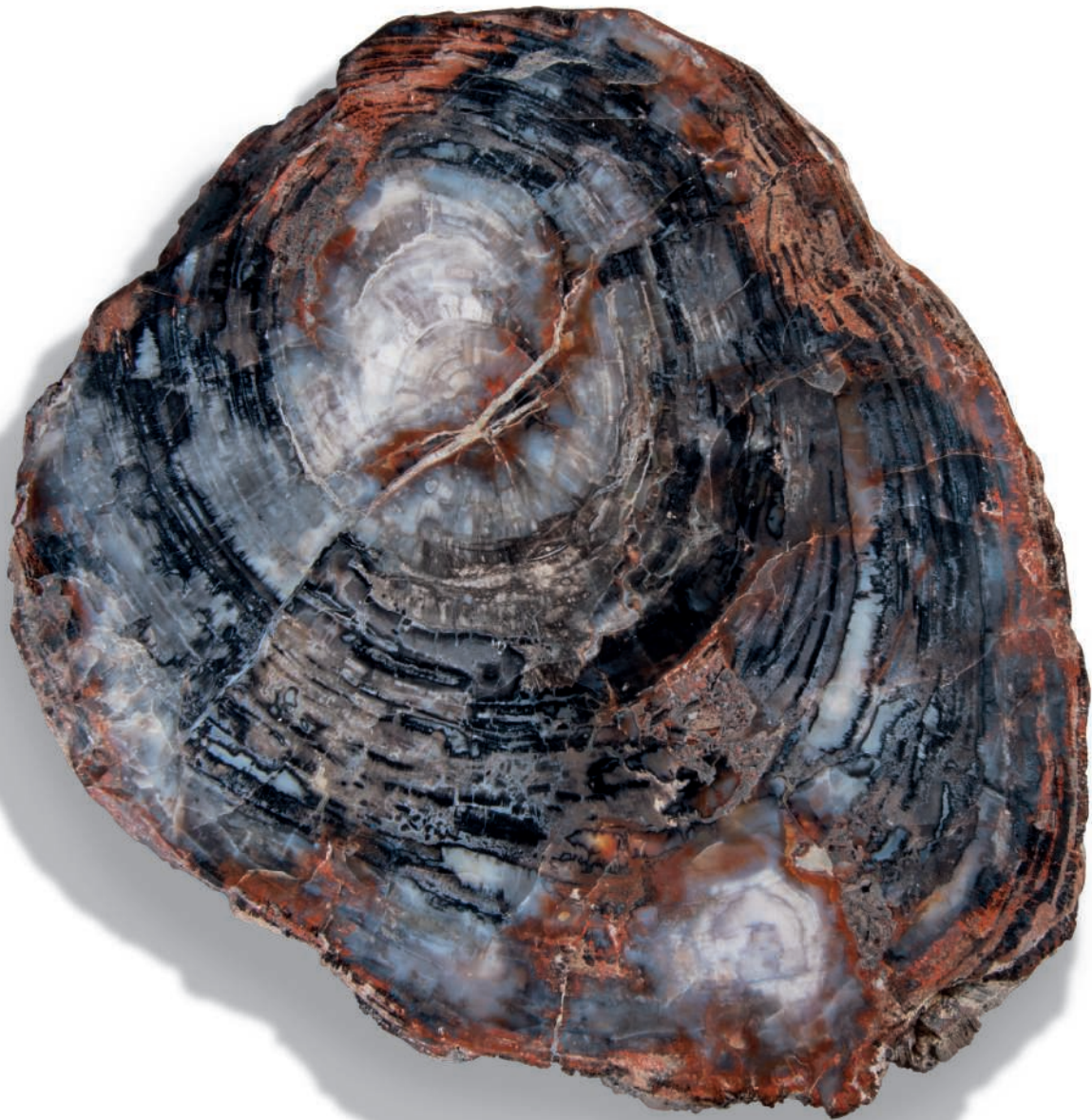
*Araucarioxylon arizonicum* from the Triassic (circa 225 million years ago) the top cut and polished to reveal internal colours and rings, the exterior preserving texture all around.

20in. high 23in. diameter  
(51 x 55 x 55cm.)

£10,000-15,000

\$13,000-19,000

€12,000-17,000





■\*105

**A FOSSIL FISH MORTALITY PLAQUE**  
GREEN RIVER WYOMING

From the Eocene (circa 50 million years ago), the panel with 14 fossil fish of various species fully prepped with others still in the matrix, supported on frame.

42 x 25in. (107 x 64cm.)

£3,000-5,000

\$3,800-6,200

€3,500-5,800





■\*106

**A LARGE AMMONITE**  
MADAGASCAR

*Kranaosphinctes rabei* from the Jurassic (201-145 million years ago) supported on custom stand.  
18in. (46cm.) diameter

£3,000-5,000

\$3,800-6,200

€3,500-5,800

■107

**A VERY LARGE SPECIMEN OF PETRIFIED TREE TRUNK**  
MADAGASCAR

From the late Triassic (circa 225 Mya) the specimen of *Araucaria* sp. with preservation of texture all round, the end sliced and polished to reveal crystalline structure.

56in. (143cm.) long

£4,000-6,000

\$5,000-7,500

€4,700-6,900

Please contact the department to view this lot



107

108

**A FOSSIL TURTLE**  
SOUTH DAKOTA

From the Oligocene (circa 33 million years ago), the carapce very well preserved to both sides with three bones of forelimbs and short skull, supported on custom stand.

8in. (20cm.) long

£2,500-3,500

\$3,200-4,400

€2,900-4,000



108



**109**

**FOSSIL SKULL OF A TURTLE**

SOUTH DAKOTA, USA

From the Oligocene (circa 33 million years ago), the 3-inch skull of a *Styemys* sp. showing fine three-dimensional preservation, supported on custom stand. 6in. (15cm.) wide on matrix

£1,200-1,800

\$1,500-2,200

€1,400-2,100



109



110

**110**  
**A CLAW OF A LARGE SAUROPOD DINOSAUR**  
UTAH

From a *Camarasaurus* sp. of the late Jurassic (circa 155-145 million years ago).

12in. (31cm.) high on stand

£3,000-5,000	\$3,800-6,200
	€3,500-5,800

Growing up to 75 foot in length, *Camarasaurus* was truly one of the giants of the Jurassic

**\*111**  
**A LARGE MEGALODON TOOTH**  
SOUTH CAROLINA

6-inch *Carcharodon* sp. from the Tortonian (12-7 million years ago).

6in. (15cm.)

£2,000-3,000	\$2,500-3,700
	€2,400-3,500



111

**\*112**

**A SAUROPOD DINOSAUR CLAW**

WYOMING

From the Jurassic Morrison formation (156-147 million years ago) claw and two toe bones of a *Barosaurus lentus* supported on custom stand.

13in. (33cm.) wide

£2,000-3,000

\$2,500-3,700

€2,400-3,500



**\*113**

**A FINE ROOTED ALLOSAURUS TOOTH**

WYOMING, USA

*Allosaurus* sp. from the Morrison Formation, Dana Quarry, Ten Sleep, Washakie County, Kimmeridgian, late Jurassic (circa 155 million years ago).

2in. (5cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



113



114

**114**

**A SMALL CRINOID SEA-BED PLAQUE**

MOROCCO

The plaque with two specimens of well preserved calyxes of crinoids, probably *Scyphocrinites elegans* from the Silurian (443-419 million years ago) supported on stand.

25in. (63cm.) high

£1,500-2,500

\$1,900-3,100

€1,800-2,900

115

**A LARGE AMMONITE**

MADAGASCAR

From the early Cretaceous (circa 135 million years ago), the specimen of *Clionoceras sp.* polished to reveal iridescent flashes of purples and blues.

19in. (49cm.) diameter

£1,500-2,500

\$1,900-3,100

€1,800-2,900



115



116

116

**A SPECIMEN OF PETRIFIED WOOD**

ORGEON

From the Miocene (23-5 million years ago), the cut face polished revealing growth lines.

19in. (49cm.) wide

£1,800-2,500

\$2,300-3,100

€2,100-2,900

117

**A "WINGED" AMMONITE**

BELMONT, FRANCE

The specimen of *Lytoceras cornucopia* with seven ribbed "wings" preserved, in original matrix with other smaller ammonite.

17in. (44cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800







**\*118**

**TWO RARE HORNED HETEROMORPH AMMONITES**  
SOUTH DAKOTA

From the Upper Campanian, Cretaceous (circa 72 million years ago) the specimens of *Didymoceras cheyennense* supported on block of the original matrix with geodic caverns.  
9in. (23cm.)

£3,000-5,000

\$3,800-6,200

€3,500-5,800

This very rare and uncoiled ammonite is "among the most striking and remarkable natural objects known from the Cretaceous rocks of the U.S. Western Interior". The species was first described by 1856, and has been subsequently revised to *Nostoceras monotuberculatum* in 2000. The helical shape with looped tapering finial has provided much debate for palaeontologists as it would not have made an efficient swimmer, and the three different orientations of coiling would present different challenges to the mollusc living inside the shell as they changed the direction of growth.



119

**A JUVENILE ICHTHYOSAUR**

GERMANY

From the lower Jurassic (200-176 million years ago) Posidonienschiefer formation, the *Stenopterygius quadricissus* showing some three-dimensionality of preservation. 14 x 49in. (36 x 125cm.)

£20,000-30,000

\$25,000-37,000

€24,000-35,000

The first complete Ichthyosaur skeleton was found by Mary Anning at Lyme Regis in 1811 (an *Ichthyosaurus communis*). The order Ichthyosauria was introduced in 1840 by Sir Richard Owen, and today about 80 species are recognised. They take their name from the Greek for “fish lizards” and are an excellent example of convergent evolution. It is thought that they evolved from land based lizards moving into the sea, eventually converging on the shape of the fish upon which they preyed.



**120**

**A MEGALODON TOOTH**

NORTH CAROLINA, USA

5½-inch *Carcharodon* sp. from the Tortonian (12-7 million years ago), on fitted brass support with wooden base.

8in. (20cm.) high on stand

£1,000-1,500

\$1,300-1,900

€1,200-1,700



120



121

**121**  
**A SLICE OF PETRIFIED WOOD**  
NORTHERN ARIZONA

*Araucarioxylon arizonicum* from the Triassic (circa 225 million years ago) sliced and polished to reveal a rainbow of colours. 14in. (36cm.) wide

£900-1,300

\$1,200-1,600

€1,100-1,500

**122**  
**A LARGE MEGALODON TOOTH**  
SOUTH CAROLINA, USA

5½-inch *Carcharodon* sp. from the Tortonian (12-7 million years ago).

5½in. (14cm.)

£1,000-1,500

\$1,300-1,900

€1,200-1,700



122

**\*123**  
**RHODOCHROSITE**  
COLORADO, USA

Of natural form, from the Sweet Home Mine, Mount Bross, Alma District, Park Co., numerous cherry red rhombohedrons of rhodochrosite, over a terminated Quartz crystals and lavender fluorite cubes.

3in. (8cm.) wide

£1,500-2,500

\$1,900-3,100

€1,800-2,900



123

124

**PLAQUE OF FOSSIL SHELLS**

TOURAINNE, FRANCE

Specimens of *Turitella* sp. with bivalves and other shelly fragments comprising the matrix.  
15 x 11in. (38 x 28cm.)

£400-600

\$500-750

€470-690



124



125

125

**A SMALL AMETHYST GEODE**

ARTIGAS, URUGUAY

Of concave form, one face cut and polished to reveal with small dark crystals, the reverse left in natural state, supported in custom metal stand.

13½in. (34cm.) high

£600-800

\$750-1,000

€700-920

**126**  
**A ROCK CRYSTAL BOWL**  
MADAGASCAR

The quartz cut and polished to bowl form.  
16in. (40cm.) wide

£1,000-1,500

\$1,300-1,900  
€1,200-1,700



126



127

**127**  
**TWO LARGE QUARTZ CRYSTALS**  
MINAS GERAIS BRAZIL

14in. (36cm.) high

£1,000-1,500

\$1,300-1,900  
€1,200-1,700



128

**128**  
**A CRYSTAL OF CALCITE**  
MADAGASCAR

The 5½ -inch crystal rhombohedron exhibiting double  
diffraction, supported on custom stand.  
12in. (31cm.) high

£700-1,000

\$880-1,200  
€810-1,200



129

**129**  
**A LARGE QUARTZ CLUSTER**  
MINAS GERAIS, BRAZIL

The heavy specimen formed of large crystals.  
31in. (79cm.) wide

£5,000-8,000

\$6,300-10,000  
€5,800-9,200



130

130

**THREE SPECIMENS OF LAPIS LAZULI**

A polished 4-inch cube and a 5-inch sphere and a pyramidal specimen in natural state.

7in. the tallest

£2,000-3,000

(3)

\$2,500-3,700

€2,400-3,500



131

131

**A PAIR OF MALACHITE SPECIMEN TABLE TOPS  
OF RECENT MANUFACTURE**

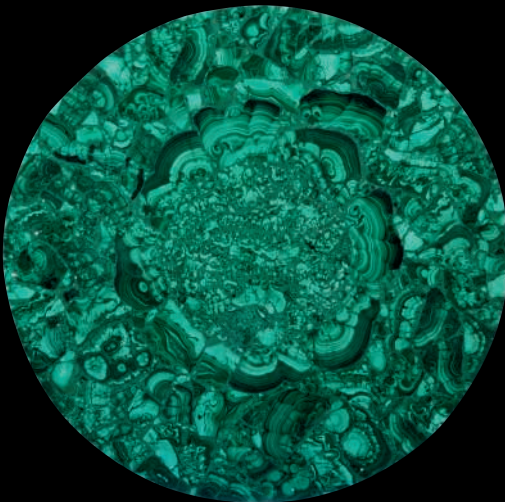
Of mosaic construction.  
23½in. (60cm.) diameter

£1,500-2,000

(2)

\$1,900-2,500

€1,800-2,300





■132

**A FOSSILISED PALM FROND**

GREEN RIVER FORMATION, WYOMING

From the Eocene (circa 50 million years ago), a specimen of *Sabalites sp.* in limestone matrix, framed.  
44 x 44in. (112 x 112cm.)

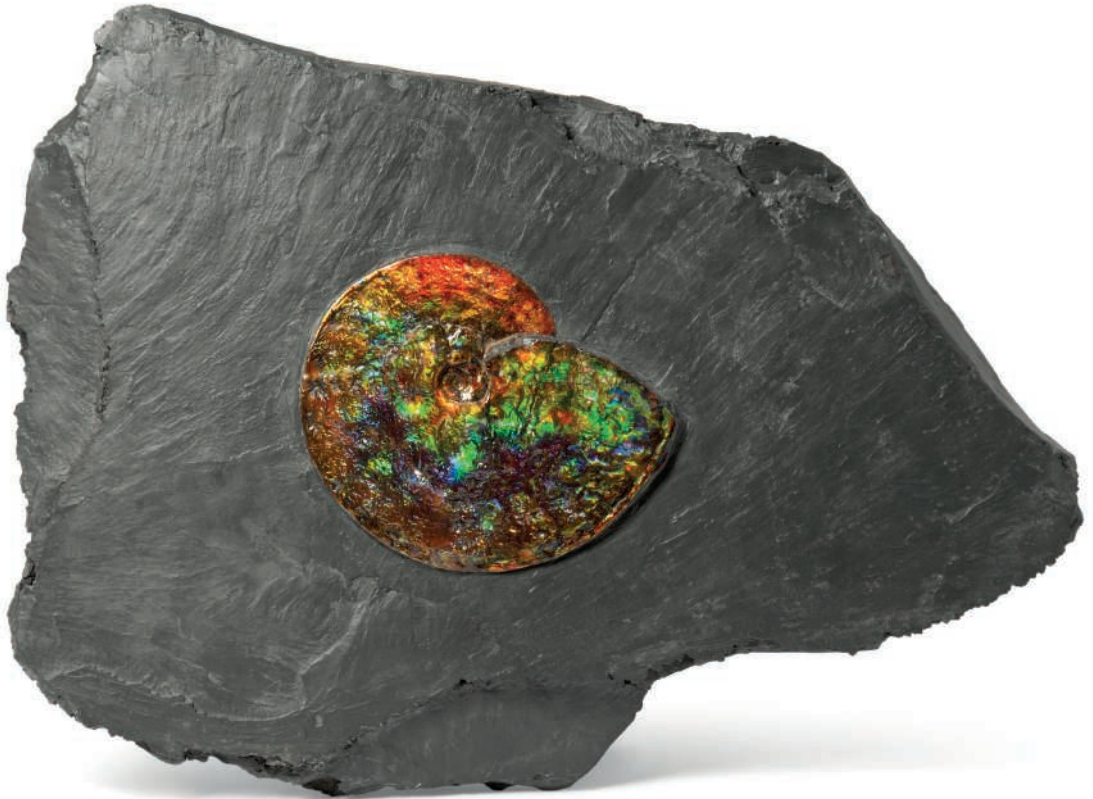
£20,000-30,000

\$25,000-37,000

€24,000-35,000

The palms of the Green River Formation represent a flora bordering a warm freshwater lake 50 million years ago. Plant material is amongst the rarest in the fossil record, and these palms are amongst the largest and finest preserved.





■\*133

### AN IRIDESCENT AMMONITE

CANADA

The 10½ inch *Placenticerus costatum* from the upper Cretaceous, Bearpaw formation (75-72 million years ago), showing strong iridescences of red, orange, green, purple.

30 x 23½in. (76 x 61cm.)

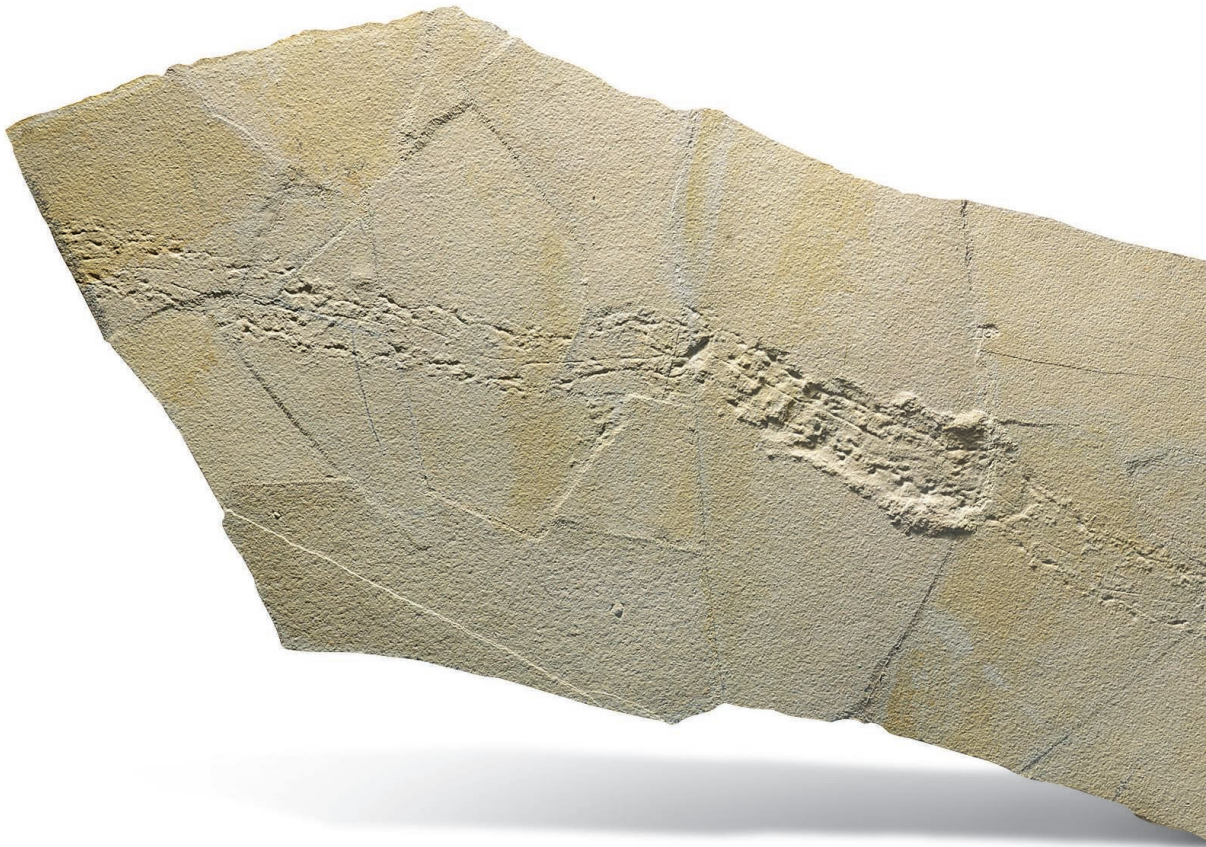
£12,000-18,000

\$15,000-22,000

€14,000-21,000

The opal like iridescence of these ammonites from Alberta, Canada has been termed ammolite and since 1981 has had the status of a gemstone. The shimmering, metallic colours were caused by the combination of millions of years of compression and the mineralisation of iron, copper and silica which precipitated from volcanic ash. The opalescent layers of colour are particularly prized in the Chinese philosophical system of Feng-Shui.

The ammonites are a group of molluscs that lived in the seas from the mid-Devonian (approximately 400 million years ago) to the end of the Cretaceous (65 million years ago). The sequence of events that famously killed off the dinosaurs also drove the ammonites to extinction.



(detail)



■134

**A HORSESHOE CRAB AND TRACE FOSSIL**

SOLNHOFEN, GERMANY

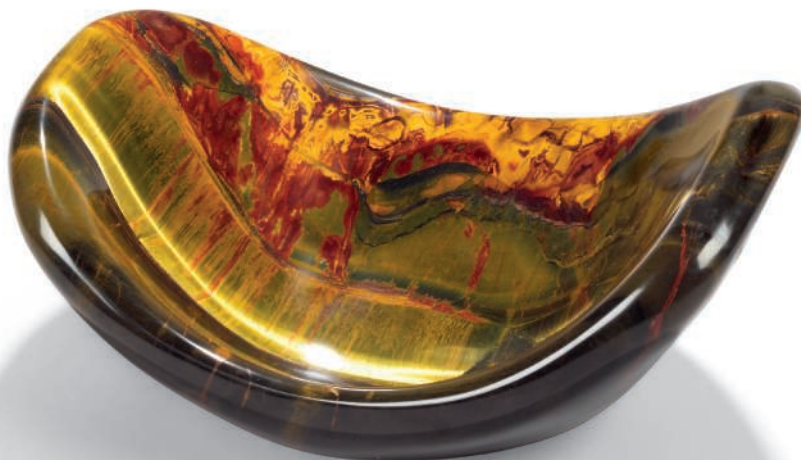
The 7-inch specimen of *Mesolimulus walchi* preserved at the end 6½-foot long track from the Jurassic (circa 150 million years ago).  
106 x 29in. (270 x 74cm.)

£25,000-35,000

\$32,000-44,000

€29,000-40,000

An important survival of the final steps of the life of a horseshoe crab. Trace fossils represent the activity of past life, and along with body fossils are important evidence of past behaviour. To find one with the animal that created it is incredibly rare.



135

**\*135**  
**A BOWL OF BANDED IRON TIGER EYE**  
 MT BROCKMAN STATION, AUSTRALIA

From the early Proterozoic (circa 2.5 billion years ago) the specimen of Marra Mamba iron formation with a broad chatoyant band, cut and polished to form a bowl. 13in. (33cm.) wide

£2,000-3,000

\$2,500-3,700

€2,400-3,500

**136**  
**THREE JASPER SPHERES**  
 MADAGASCAR

Polished, on displaying orbicular jasper. 7in. (18cm.) the largest

£1,200-1,800

(3)

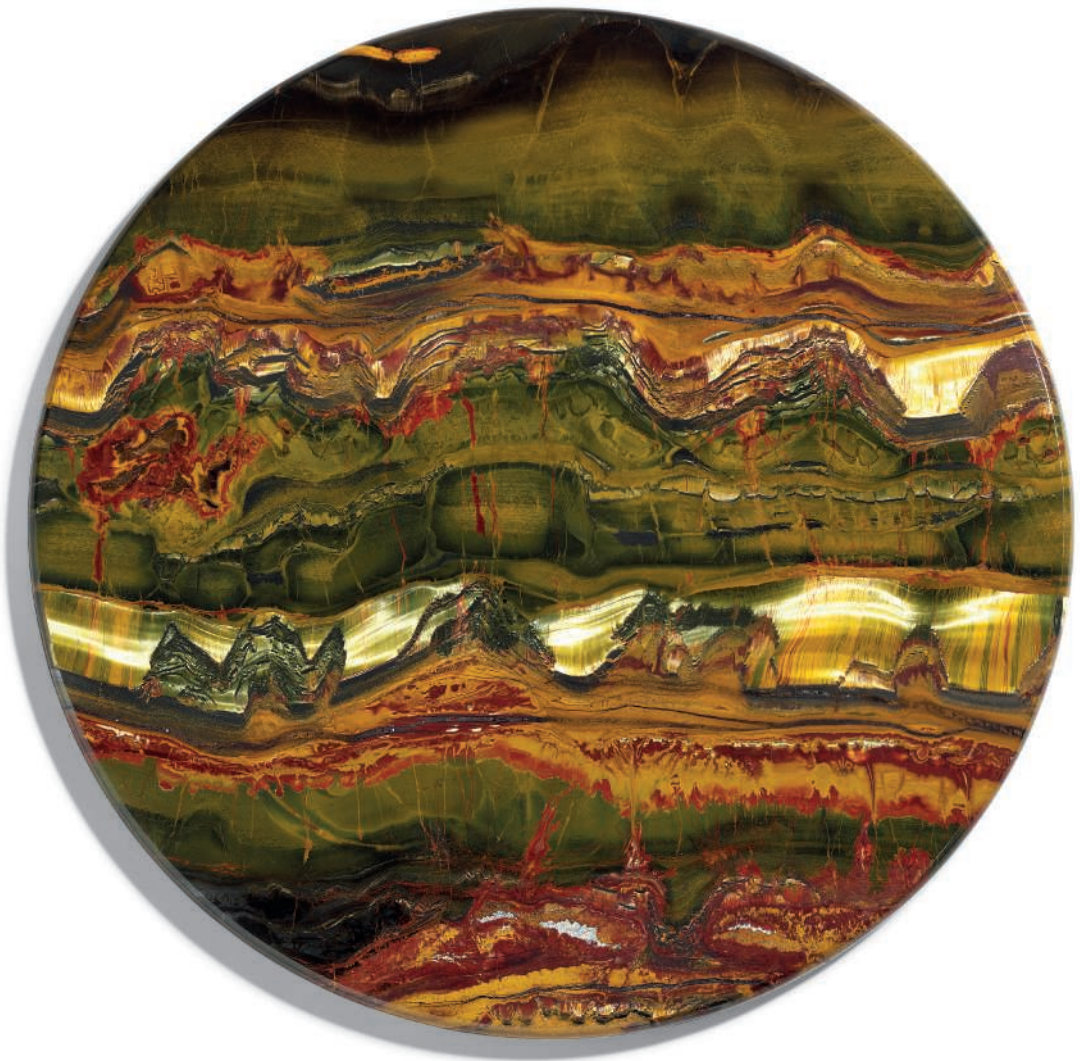
\$1,500-2,200

€1,400-2,100

Found only in the blue crocidolite seams of the Hamersley Range in the Pilbara region of Western Australia, this highly iridescent ironstone, Marra Mamba, is amongst the rarest and most colourful of all Tiger-eye. Probably stromatolitic in origin, this fossil is amongst the earliest signs of life on Earth, and as a semi-precious stone is also one of the most beautiful.



136



■\*137

**BANDED IRON TIGER EYE SPECIMEN**

MT BROCKMAN STATION, AUSTRALIA

From the early Proterozoic (circa 2.5 billion years ago) the panel of Marra Mamba iron formation cut and polished in the form of a table top.

22½in. (57.5cm.) diameter

£6,000-9,000

\$7,500-11,000

€7,000-10,000

Found only in the blue crocidolite seams of the Hamersley Range in the Pilbara region of Western Australia, this highly iridescent ironstone, Marra Mamba, is amongst the rarest and most colourful of all Tiger-eye. Probably stromatolitic in origin, this fossil is amongst the earliest signs of life on Earth, and as a semi-precious stone is also one of the most beautiful.

138

**A LARGE Iridescent AMMONITE**

CANADA

From the Upper Cretaceous, Bearpaw formation (75-72 Mya), the 20-inch specimen of *Placenticeras* sp. showing iridescence of red, green yellow and orange to both sides, supported on custom stand.

20½in. (52cm.) diameter

(2)

£10,000-15,000

\$13,000-19,000

€12,000-17,000



(front)

The opal like iridescence of these ammonites from Alberta, Canada has been termed ammolite and since 1981 has had the status of a gemstone. The shimmering, metallic colours were caused by the combination of millions of years of compression and the mineralisation of iron, copper and silica which precipitated from volcanic ash. The opalescent layers of colour are particularly prized in the Chinese philosophical system of Feng-Shui.

The ammonites are a group of molluscs that lived in the seas from the mid-Devonian (approximately 400 million years ago) to the end of the Cretaceous (65 Mya). The sequence of events that famously killed off the dinosaurs also drove the ammonites to extinction



(back)



**139**  
**AN ENGLISH ICHTHYOSAUR**  
SOMERSET

From the Jurassic ( 201-145 million years ago) the front portion of an *Ichthyosaurus* sp. (possibly *larkini*), prepped from a nodule with the reverse stabilised, the skull showing good three-dimensionality supported on custom stand.

34 x 19 x 14in. (86 x 48 x 36cm.)

£10,000-15,000

\$13,000-19,000

€12,000-17,000

The first complete Ichthyosaur skeleton was found at Lyme Regis in 1811 by Mary Anning (of “she sells sea-shells on the seashore” fame). The order Ichthyosauria was introduced in 1840 by Sir Richard Owen, and today about 80 species are recognised. They take their name from the Greek for “fish lizards” and are an excellent example of convergent evolution. It is thought that they evolved from land based lizards moving into the sea, eventually converging on the shape of the fish upon which they preyed.



■140  
**A LARGE SLICE OF PETRIFIED WOOD**  
NORTHERN ARIZONA

*Araucarioxylon arizonicum* from the Triassic (circa 225 million years ago) sliced in cross-section and polished to reveal a rainbow of colours, some growth rings still visible.

33in. (84cm.) diameter

£4,000-6,000

\$5,000-7,500

€4,700-6,900





■141

**A SLICE OF PETRIFIED WOOD**

MADAGASCAR

*Araucaria* sp. from the Triassic (circa 225 million years ago) cut and polished to reveal inner structure of rings.

27in. (69cm.) diameter

£3,500-4,500

\$4,400-5,700

€4,000-5,200



■142

**A FOSSIL ENTELODONT OR SKULL**

SOUTH DAKOTA

From the Brule Formation, Oligocene (34-30 million years ago), the skull of *Archaeotherium* sp. supported on turning wooden stand.

24in. (61cm.) wide

£10,000-15,000

\$13,000-19,000

€12,000-17,000

Often termed "THE HOG FROM HELL" or a "KILLER PIG", these large omnivorous animals stood nearly two meters high, and with ferocious dentition would also have been able to run at great speed. Despite their common name, they may have been more closely related to hippos than pigs



**143**

**AN INTACT ELEPHANT BIRD EGG**

MADAGASCAR, PRE-17TH CENTURY

A complete egg of an *Aepyornis maximus*, maximum diameter 8¼ inches.

15in. (38cm.) high on stand

£30,000-50,000

\$38,000-62,000

€35,000-58,000

**PROVENANCE:**

Ex Collection of Jacques Kerchache (1942-2001)

The Elephant Bird was thought to be the giant flying beast known as the Roc (or Ruhk) in the tales of Sinbad and accounts of Marco Polo's voyages. The bird grew to around 10 or 11 feet in height and whilst probably unable to devour an elephant, as the Roc was reputed to do, it certainly was the largest bird ever to have lived. It was estimated to weigh up to 1100lbs (the largest ostriches might grow to 8 feet in height and weigh 300lbs).

The birds are thought to have gone extinct between the 14th and 17th centuries.

## GOGOTTES (LOTS 144-152)



**144**

**A GOGOTTE FORMATION**  
FONTAINEBLEAU, FRANCE

Of natural form, from the Oligocene (circa 30 million years ago), supported on stand.  
13in. (34cm.) high

£2,500-3,500

\$3,200-4,400

€2,900-4,000



**145**

**A GOGOTTE FORMATION**

FONTAINEBLEAU, FRANCE

Of natural sweeping form, from the Oligocene (circa 30 million years ago), fixed to wooden stand.

12in. (31cm.) high

£2,000-3,000

\$2,500-3,700

€2,400-3,500



■146

**A GOGOTTE FORMATION WITH NATURAL HOLES**

FONTAINEBLEAU, FRANCE

Of natural form, from the Oligocene (circa 30 million years ago), supported on wooden stand.  
22in. (55cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800



**147**

**A GOGOTTE FORMATION WITH NATURAL HOLE**

FONTAINEBLEAU, FRANCE

Of natural form, from the Oligocene (circa 30 million years ago), supported on wooden stand.  
17½in. (44cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800



■148

**A GOGOTTE FORMATION**  
FONTAINEBLEAU, FRANCE

Of natural form, from the Oligocene (circa 30 million years ago), supported on custom iron stand.  
20½in. (52cm.)

£4,000-6,000

\$5,000-7,500

€4,700-6,900





■149

**A LARGE GOGOTTE FORMATION**

FONTAINEBLEAU, FRANCE

The intact specimen of natural form with deep cavernous recesses, from the Oligocene (circa 30 million years ago), supported on fitted stand.

19in. (49cm.) high

£5,000-8,000

\$6,300-10,000

€5,800-9,200



■150

**A LARGE GOGOTTE FORMATION**

FONTAINEBLEAU, FRANCE

Of natural form with many layers of concretions, caverns and holes, the reverse fixed to a cast iron stand on plinth.  
28in. (72cm.) high

£10,000-15,000

\$13,000-19,000

€12,000-17,000

■151

**A VERY LARGE GOGOTTE FORMATION**

FONTAINEBLEAU, FRANCE

Of natural form with many layers of concretions forming caverns and holes.  
35 x 37 x 14in. (89 x 94 x 14cm.)

£15,000-25,000

\$19,000-31,000

€18,000-29,000

Sandstone concretions formed in mineral rich waters 30 million years ago, gogottes are much prized for their sculptural-like appearance. This specimen is one of the largest we have seen come to market.





**152**

**A SMALL GOGOTTE FORMATION**

FONTAINEBLEAU, FRANCE

Of natural form with natural yellows, from the Oligocene (circa 50 million years ago) on stand.  
12in. (31cm.)

£2,000-3,000

\$2,500-3,700

€2,400-3,500

**\*153**

**STRATHMORE METEORITE – THICK SLAB FROM A 1917 SCOTTISH FIREBALL**

L6

PERTSHIRE, SCOTLAND (56°35' N, 3°15' W)

With two edges of fusion crust along with one cut and one crenulated edge, a creamy matrix is accented by terrestrial tinting along with fresh metal scattered throughout. Modern cutting.

57 x 57 x 9mm (2¼ x 2¼ x ⅓ inches)

95.9 grams

£7,000-10,000

\$8,800-12,000

€8,100-12,000

**PROVENANCE:**

Natural History Museum, London

Following the appearance of a brilliant fireball on December 3, 1917 that entered the atmosphere east of Dunbar, Scotland and passed over Fife and the Sidlaws Hills where it broke apart in the sky, four stones weighing a total of approximately 13 kg were recovered. Three of the stones were found in Perthshire at Easter Essendy, Carsie and Keithick, and one stone in Forfarshire at South Corston. As indicated by the L6 designation, Strathmore has a moderately low amount of iron for a chondritic meteorite and its chondrules have been extensively recrystallised when the rock was metamorphosed on its parent asteroid. During this heating process, the mineral grains became compositionally uniform. Nearly 10 kg of Strathmore is at the National Museum of Scotland, where it is most likely to remain.





**\*154**

**A COMPLETE CAMPO DE CIELO METEORITE WITH  
THREE NATURAL HOLES**

DISCOVERED CHACO, ARGENTINA, 1576

The specimen exhibits deep natural grooves and pits, with three naturally formed holes, its textured surface with a dusky platinum patina with bright highlights, fixed to base.  
11in. (18cm.) high on stand

£8,000-10,000

\$10,000-12,000

€9,300-12,000

About 4000 years after having collided with Earth, Campo del Cielo ("Field of the Sky") meteorites were first written about in 1576 by Spanish explorers when their unearthly origins had yet to be understood. It was a "Campo" that was the first large meteorite displayed at the British Museum of Natural History, and several large Campo del Cielo masses can be found today in the finest museums throughout the world.

The frictional stresses during atmospheric passage caused it to explode and break up into thousands of pieces. The larger iron masses ploughed into the ground at such a high velocity that an array of at least 26 impact craters formed, the largest being 91x115 meters. The meteorite is from chemical group IAB and has been modelled as having formed on a chondritic asteroid as a result of a cataclysmic collision at cosmic velocity with another asteroid in deep space.

155

**RARE ZOOMORPHIC METEORITE FROM THE MACOVICH COLLECTION – WITH A NATURALLY FORMED HOLE, “THE TERRIER FROM OUTER SPACE”**

*IRON, FINE OCTAHEDRITE*

*GIBEON, GREAT NAMA LAND, NAMIBIA*

With a naturally formed hole within a large socket, this is among the world’s most widely celebrated zoomorphic meteorites. Its highly textured surface is draped in hues ranging from pewter to platinum with bright highlight ridges. Accompanied by a custom armature.

8½ x 8½ x 4in. (214 x 214 x 103mm.)

5.5kg

£60,000-90,000

\$75,000-110,000

€70,000-100,000

**LITERATURE:**

This specimen was featured in the February 15, 2010 issue of *Crain’s New York*.

Most iron meteorites—including the current example, among the finest zoomorphic meteorites known—originate from the cores of asteroidal bodies that briefly existed between Mars and Jupiter 4.5 billion years ago. Their shattered remains populate the asteroid belt. Recovered from the edge of the Kalahari Desert, Gibeon iron meteorites are the bounty of a huge meteorite shower that occurred thousands of years ago when an enormous iron mass from the asteroid belt slammed into Earth’s upper atmosphere before exploding and raining down in an elliptical strewnfield in what is now Namibia. Indigenous tribesmen of past generations recovered small metallic shards and fashioned them into spear points and other tools. The specimen now offered was recovered in 1991 by a tribesman with the aid of a metal detector. Gibeon meteorites have a relatively high nickel content and if this meteorite were cut it would reveal a gleaming octahedral crystalline pattern. Surrounded by a multitude of gleaming ridges, this meteorite features a naturally formed hole. It is rare for meteorites to possess such holes, and far more rare still when the hole results in a distinctly zoomorphic example, as does this meteorite, which bears a striking semblance to a terrier. This specimen is accompanied by a custom armature and select pedigree: The Macovich Collection of Meteorites—the most acclaimed collection of aesthetic iron meteorites.



156

**CAMPO DEL CIELO METEORITE**

GRAN CHACO GUALAMBE,  
ARGENTINA

A complete iron meteorite, coarse  
octahedrite – IAB-MG.  
7½in. (19cm.) long

£1,000-1,500

\$1,300-1,900

€1,200-1,700

This great meteorite was first  
discovered by Spanish explorers in  
Chaco, Argentina in 1572. Thousands  
of pieces have been found near the  
point of impact, the largest weighing  
an immense 37 tons. It has been  
determined from carbon dating, taken  
from charred wood remains from the  
crater, that the fall occurred between  
4,000 and 6,000 years ago. The  
cosmic radiation of the Meteorite mass  
was found to be relatively young at  
approximately 14 Million years old.



156



157

\*157

**SUPERIOR SIKHOTE-ALIN METEORITE FRAGMENT –  
FROM THE LARGEST METEORITE SHOWER SINCE THE  
DAWN OF CIVILISATION**

IRON, COARSEST OCTAHEDRITE – IIAB

MARITIME TERRITORY, SIBERIA, RUSSIA

Deep grooves, twisting folds and striations surround a central  
protuberance. The patina ranges in hues from pewter to  
charcoal with chrome accents. The reverse is largely a smooth  
curved surface with faint criss-crossed striations. Accompanied  
by a custom armature.

3½ x 3 x 2in. (89 x 79 x 50mm)

1½lbs (623g)

£1,000-1,500

\$1,300-1,900

€1,200-1,700

At 10:30 A.M. on February 12, 1947 the largest meteorite  
fall since the dawn of civilisation occurred. It streaked over  
the Sikhote-Alin Mountains and at an altitude of just 5 km it  
violently exploded, showering the snowy Siberian taiga with  
tens of tons of material. There are two types of Sikhote-  
Alin: those which experienced frictional heating in the upper  
atmosphere which are gently scalloped, and the jagged  
and twisted shrapnel-like specimens (from the low altitude  
explosion). This is an example of the latter. The fragments  
from this explosion, including the fragment now offered, fell  
within an elliptical debris field about 1.6 km<sup>2</sup> in area. The  
conspicuous shearing from a larger mass is testament to the  
massive forces this meteorite experienced before impact.  
Originating from the asteroid belt, this is a choice example  
from a historic meteorite shower.



158

**A CAMPO DE CIELO METEORITE**

GRAN CHACO GUALAMBA, ARGENTINA

A complete iron meteorite, coarse octahedrite – IAB-MG.  
4½in. (12cm.) long

£1,000-1,500

\$1,300-1,900

€1,200-1,700

This great meteorite was first discovered by Spanish explorers in Chaco, Argentina in 1572. Thousands of pieces have been found near the point of impact, the largest weighing an immense 37 tons. It has been determined from carbon dating, taken from charred wood remains from the crater, that the fall occurred between 4,000 and 6,000 years ago. The cosmic radiation of the Meteorite mass was found to be relatively young at approximately 14 Million years old.



158

159

**CORNER CUT OF A GIBEON METEORITE**

NAMALAND, NAMIBIA; MODERN CUTTING

This 8cm corner cut reveals three faces with the beautiful *Widmanstätten pattern* that is characteristic of Gibeon specimens, the reverse with natural patina with shades of mango and charcoal.

6in. (15cm.) high on stand

£1,200-1,800

\$1,500-2,200

€1,400-2,100

Discovered in 1836 by James Edward Alexander (1803-85), a specimen of the Gibeon meteorite was sent to London, where it was confirmed as a meteorite by the astronomer John Herschel (1792-1871). Later research has determined the fall date to have been between 5,000 and 30,000 years ago. Originating from the molten core of an asteroid and after travelling millions of years in interplanetary space, it fell into Earth's upper atmosphere before exploding and raining down over an elliptical strewn field in what is now Namibia. Due to a relatively high nickel content (8%), Gibeon is ductile and not as prone to oxidising as most other iron meteorites. Only when cut and etched, the fine octahedral intergrowth of a Gibeon's primary alloys is revealed.



159



160

■160  
**A VERY LARGE CARVED AMMONITE**  
 MOROCCO

From the Cretaceous (145-66 million years ago) a *Mantelliceras* sp. the front heavily carved, the reverse mostly left in natural state.

27in. (69cm.) high on stand

£3,000-5,000

\$3,800-6,200

€3,500-5,800



161

■161  
**TWO LARGE FRENCH AMMONITES**  
 LORRAINE, FRANCE

The larger a 19-inch *Coroniceras* sp. from the Toarcian, Jurassic (183-174 million years ago) with two small *Gryphea* shells.

27in. (69cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800



162

■\*162  
**A DOUBLE FISH PLAQUE**  
 GREEN RIVER, WYOMING

From Eocene (circa 50 million years ago), the matrix naturally containing two (18 and 14-inch) *Diplomystus dentatus* preserved in a pose as if in chase, framed. 21½ x 35½in. (55 x 90cm)

£2,000-3,000

\$2,500-3,700

€2,400-3,500



■\*163

**A VERY LARGE FOSSIL LEAF**

GREEN RIVER, WYOMING

From the Eocene (circa 50 million years ago) the 22-inch long leaf probably a species of banana preserved with a small fish in the same matrix, the plaque signed by the preparator 'C. G Ulrich', with stabilising resin frame.

32½ x 22in. (83 x 55cm.)

£8,000-12,000

\$10,000-15,000

€9,300-14,000

The Green River Formation presents us with a flora that bordered a warm freshwater lake 50 million years ago. Plant material is amongst the scarcest in the fossil record, and from this formation palm fronds are occasionally found but the current specimen is a very rare (and important) survival indeed.



164

■164  
**A PLAQUE OF FOSSILISED SCALLOPS**  
 SOUTHERN FRANCE

*Pecten maximus* up to 7-inches long with many smaller specimens, possibly juvenile, preserved alongside, from the Miocene (23-5 million years ago), supported on blue stand. 21 x 20in. (54 x 51cm.)

£4,000-6,000

\$5,000-7,500

€4,700-6,900

■165  
**FOSSILISED SCALLOPS**  
 SOUTHERN FRANCE

From the Miocene (23-5 million years ago) *Pectens Maximimus* shells supported on fitted stand. 22½in. (57cm.) wide

£1,000-1,500

\$1,300-1,900

€1,200-1,700

Preserved in their final pose, these fossil *Pectens*, are the ancestors of today's modern (edible) scallop. Their surrounding host rock has been carved away to reveal their detail.



165



166

■166

**A LARGE SLICE OF PIETRA PAESINA**

ITALY

The slice of "picture stone" polished to reveal form of abstracted landscape, supported on frame.

17in. (44cm.) wide

£1,000-1,500

\$1,300-1,900

€1,200-1,700

■167

**A LARGE BANDED IRON TIGER EYE SLICE**

MT BROCKMAN STATION, AUSTRALIA

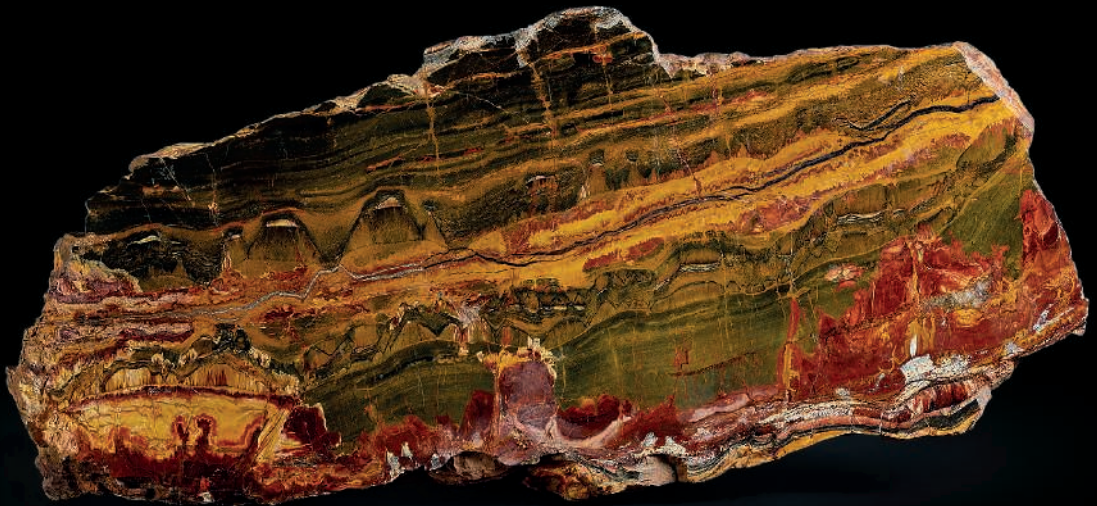
From the early Proterozoic (circa 2.5 billion years ago) the panel of Marra Mamba iron formation cut and polished with edges left in natural state, supported on frame.

31in. (79cm.) long

£5,000-8,000

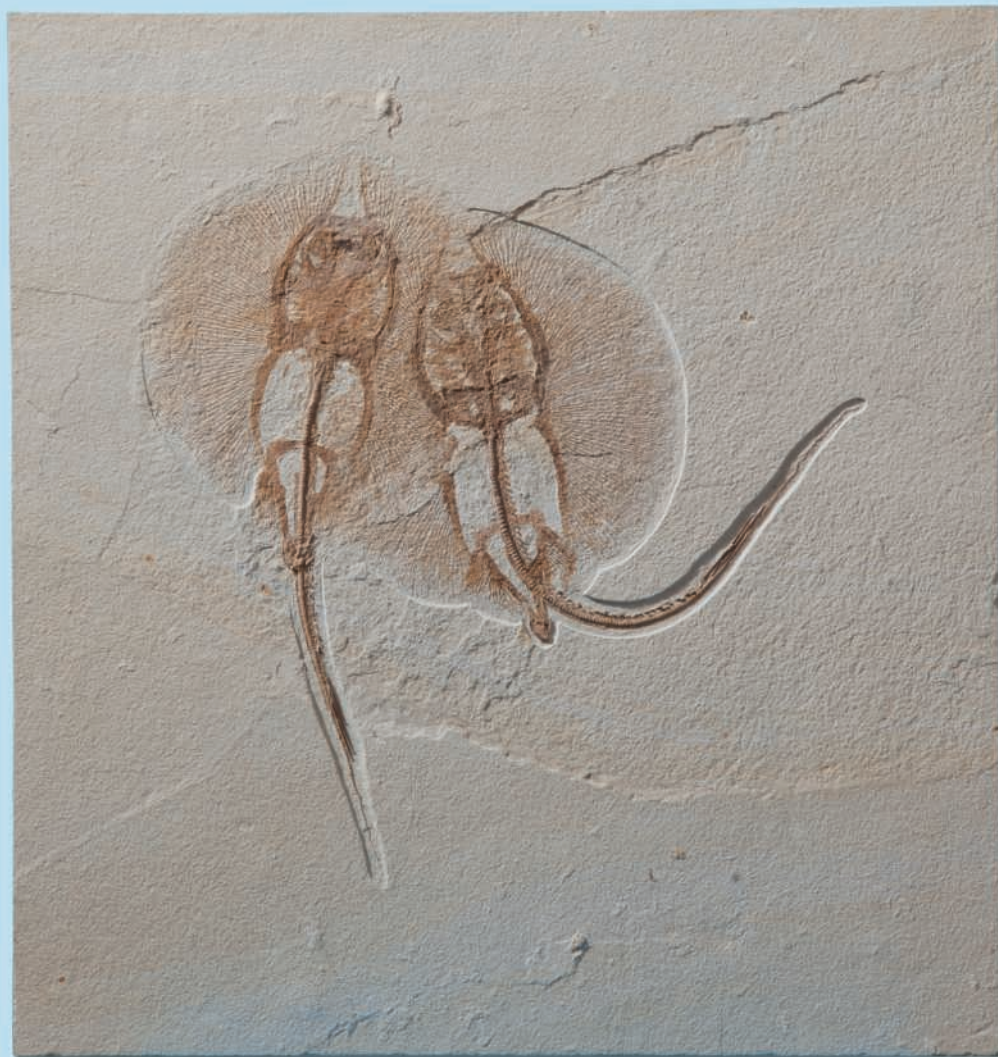
\$6,300-10,000

€5,800-9,200



167

107



■\*168

**A RARE DOUBLE FOSSIL STINGRAY PLAQUE**

GREEN RIVER, WYOMING

From the Eocene (circa 50 million years ago), 16-inch and 18-inch male *Heliobatis radians* showing fine preservation. 23 x 21in. (57.5 x 54.5cm.)

£4,000-6,000

\$5,000-7,500

€4,700-6,900

Finding two overlapping specimens of the same species naturally preserved in the same limestone layer is incredibly rare. The event that buried these two side by side could have been a sudden poisoning of the lake or it is possible that this scene is the result of a fight.



169

■\*169  
**A LARGE FOSSIL FISH**  
 GREEN RIVER, WYOMING

The 22-inch *Phareodus encaustus* from the Eocene (circa 50 million years ago), mounted on board for hanging.  
 22 x 33in. (57 x 84cm.)

£3,000-5,000

\$3,800-6,200  
 €3,500-5,800



170

170  
**AN AMMONITE**  
 RUSSIA

*Speetoniceras* sp. from the Oxfordian, late Cretaceous (164-157 million years ago), supported on stand.  
 11in. (28cm.) diameter

£1,200-1,800

\$1,500-2,200  
 €1,400-2,100

■171  
**THREE LARGE FRENCH AMMONITES**  
 LORRAINE, FRANCE

Two specimens and an impression of *Coroniceras* sp. from the Toarcian, Jurassic (183-174 million years ago)  
 29½in. (75cm.) high

£4,000-6,000

\$5,000-7,500  
 €4,700-6,900



171



172

**A GIBEON METEORITE SPHERE**

NAMALAND, NAMIBIA; MODERN CUTTING

This sphere reveals in three dimensions the beautiful *Widmanstätten pattern* that is characteristic of Gibeon specimens.

3½in. (9.5cm.) diameter

£7,000-10,000

\$8,800-12,000

€8,100-12,000

Discovered in 1836 by James Edward Alexander (1803-85), a specimen of the Gibeon meteorite was sent to London, where it was confirmed as a meteorite by the astronomer John Herschel (1792-1871). Later research has determined the fall date to have been between 5,000 and 30,000 years ago. Originating from the molten core of an asteroid and after travelling millions of years in interplanetary space, it fell into Earth's upper atmosphere before exploding and raining down over an elliptical strewn field in what is now Namibia. Due to a relatively high nickel content (8%), Gibeon is ductile and not as prone to oxidising as most other iron meteorites. Only when cut and etched, the fine octahedral intergrowth of a Gibeon's primary alloys is revealed.





**173**

**UNIQUE LUNAR METEORITE – NWA 5000**

*GABBROIC BRECCIA FROM THE LUNAR HIGHLANDS*

*NORTHWEST AFRICA*

This is a thick cut sample of lunar meteorite NWA 5000. Coarse-grained fragments (with shock-injected veins of silicate melt) and small black glassy fragments composed of impact melt are seen. The rock has a two-toned appearance. Its brecciated nature attests to the impact-mixing of different kinds of materials at the lunar surface. Modern cutting.

1¼ x 1 x ½ in. (37 x 27 x 8mm.)

20g

£7,000-10,000

\$8,800-12,000

€8,100-12,000

Moon rocks are among the rarest substances on Earth, and now offered is a sample of a Moon rock ejected from the lunar surface by an asteroid impact. Moon rocks are identified by specific textural, mineralogical, chemical and radiation signatures. There are less than 200 kg of lunar meteorites known to exist and a significant fraction is controlled by governmental institutions. Many of the common minerals found on Earth's surface are rare on the Moon and some

lunar minerals are unknown on Earth. In addition, Moon rocks contain gases captured from the solar wind with isotope ratios very different from the same gases found on Earth. While Apollo astronauts returned with 400 kg of Moon rocks, not one milligram is available for private ownership. The amount of the Moon that is not institutionally controlled and available to the private sector might fill a single oversized suitcase. As one would expect, many of the Apollo mission samples returned to Earth are nearly identical to lunar meteorites. Northwest Africa 5000 is the largest meteorite originating from the Moon's ancient Lunar Highlands ever found. It lay undisturbed in the world's largest and hottest desert, the Sahara, until being discovered by inexperienced (and exceedingly fortunate) treasure hunters in July 2007. Lunar origin was soon established. As a result of its importance, the Meteoritical Society's Nomenclature Committee bestowed it the honorific identification "NWA 5000." The main mass has been on featured display at the Royal Ontario Museum and the specimen now offered is a small sample from the main mass. NWA 5000 is the fourth largest lunar meteorite known and is the largest lunar meteorite that consists mainly of igneous rocks from the lunar highlands (the highly cratered, light-colored regions of the Moon).



(cut face)



(reverse)

**\*174**

**END PIECE OF A LUNAR BRECCIA (NWA 8277)**  
DISCOVERED IN MOROCCO, 2013

The cut face of this dark-coloured specimen contains impact melt, the matrix of with white feldspar and green-brown pyroxene and olivine grains; the reverse side with a sandblasted patina.

3in. (8cm.) wide

£20,000-30,000

\$25,000-37,000

€24,000-35,000

There are currently less than 250 lunar meteorites known, but because many specimens break up in the atmosphere or on the ground, there are probably only about 120 separate lunar meteorites. None is an observed fall. Lunar meteorites are readily recognizable because they can be compared to the samples returned by the Apollo astronauts and three Soviet Luna missions. Many of the lunar meteorites were shocked when launched from the Moon's surface. NWA 8277 is a breccia composed of numerous inclusions containing various-size crystals of plagioclase (a calcium-aluminum silicate), pyroxene and olivine (magnesium- and iron-rich silicate minerals). The specimen was found in the Sahara as a single 773-g stone without any fusion crust.



# GLOBES AND PLANETARIA (LOTS 175-191)

**175**

**A BELGIAN MINIATURE GLOBE**

L.E. BELOT FILS, LATE 19TH CENTURY

The 8-cm globe comprised of twelve chromolithographed gores and two polar calottes, showing geographical features a few cities and ocean currents, the cartouche *SPHERE de 0,08 de Diam.e par L.E. BELOT Fils, Fab.t Rue des Minimes 89 BRUXELLES Ameubleme.t d' école* on painted iron tripod stand. 6in. (16cm.) high

£400-600

\$500-750

€470-690



175

**176**

**A FRENCH 3-INCH TERRESTRIAL GLOBE**

L'HACHETTE & CIE

Comprised of twelve chromolithographed gores, the cartouche *Globe Schotte de Berlin Revu et Corrigé par M. Vivien de Saint-Martin PARIS L. Hachette & Cie*, supported on turned brass column atop ceramic plinth.

5in. (13cm.) high

£600-900

\$750-1,100

€700-1,000



176

**■\*177**

**A BOHEMIAN CLASSROOM GLOBE**

FELKL, LATE 19TH CENTURY

The 12-inch terrestrial globe, opening to reveal black painted interior with two suspension hooks, the cartouche *ZEMEKOULE. Tiskem a nakladem vy d alo J. FELKL a SYN Jovarna na pomucky ucebne v Roztok ach u prahy.* 25in. (64cm.) high

£1,000-1,500

\$1,300-1,900

€1,200-1,700



177



178

**\*178**  
**AN ENGLISH TABLE GLOBE**  
 NEWTON & SON

The 5½-inch globe comprised of twelve hand-coloured engraved gores, the cartouche *NEWTON'S New & Improved Terrestrial Globe Containing the latest Discoveries* LONDON NEWTON & SON 66 Chancery lane, supported in plain brass half meridian on turned column screwing into beech tripod base. 10in. (26cm.) high

£1,000-1,500

\$1,300-1,900

€1,200-1,700

**■179**  
**A LARGE GERMAN TABLE GLOBE**  
 ERNST SCHOTTE & CO, LATE 19TH CENTURY

The 15-inch globe comprised of twelve chromolithographed gores and two polar calottes, the countries coloured in outline, shipping routes marked to the sea, supported in graduated brass half-meridian on turned ebonised sand with retractable compass.

32in. (81cm.) high

£1,500-2,500

\$1,900-3,100

€1,800-2,900



179



180



**-180**  
**A PAIR OF VICTORIAN 4½-INCH GLOBE**  
 NEWTON, 1844

Each of twelve hand-coloured engraved gores and two polar calottes, the terrestrial inscribed *NEWTONS New & Improved Terrestrial Globe Containing the latest Discoveries* LONDON *NEWTON & SON 66 Chancery Lane*, the celestial inscribed *NEWTONS New & Improved Celestial Globe*/LONDON *Newton & Son 66 Chancery Lane 1844*, on turned rosewood stands with concave sided bases. 8in. (20cm.) high  
 £2,000-3,000

**181**  
**A SWEDISH TELLURIAN**  
 P.A. NORSTEDT & SONER, CIRCA 1920

Serial number 54, the 11-cm terrestrial globe with chromolithographed gores, the working mechanism supported on cast iron stand, signed to the calendrical plate P.A. NORSTEDT & SONER, STOCKHOLM. 25in. (64cm.) wide  
 £1,200-1,800

\$1,500-2,200  
 €1,400-2,100



(2)

\$2,500-3,700  
 €2,400-3,500

181



182

**182**

**A SWEDISH TELLURIAN**

JOHANN FRIEDRICH BERG, CIRCA 1890

An early 19th-Century school's tellurian, the 7.5-cm. miniature terrestrial globe labelled *JORDGLOB a N. Selander Tillverkau aft Adolph Lennon Stockholm* made up eighteen gores, supported on cast iron base, signed to the calendrical plate *FR.J. BERG*. 21in. (54cm.) wide

£1,500-2,500

\$1,900-3,100

€1,800-2,900

**\*183**

**AN AMERICAN TELLURIAN**

VETTER CO, CIRCA 1930

Signed to the base *THE VETTER CO BUFFALO N.Y.* with 4-inch terrestrial globe and arm for Venus in original carrying case — with instruction manual *Livre d'instruction pour le planetarium ideal* (The Vetter Co., Bridgeburg, Ontario; n.d.). 22½in. (57cm.) wide in case

£700-1,000

\$880-1,200

€810-1,200



183



**\*184**

**A DISSECTED GLOBE**

EDWARD MOGG; LONDON, 1812

4-inch diameter card terrestrial globe, comprising twelve pieces of printed card, slotting together to form the appearance of a globe, two of the upright sections forming two hemispheres of a world map, the other two an armillary sphere, two card advertisements in original; card box.

7½ x 5½ in. (19 x 14 cm.) in box

£2,000-3,000

\$2,500-3,700

€2,400-3,500





185

**185  
AN ENGLISH 3-INCH POCKET  
GLOBE**

NEWTON, SON & BERRY CIRCA 1850

The globe comprised of 12 hand-coloured engraved gores, with cartouche *NEWTON'S New & Improved TERRESTRIAL GLOBE* Published by *Newton, Son & Berry 66 Chancery Lane, LONDON* in original fishskin case with interior celestial gores *NEWTON'S Improved Pocket CELESTIAL GLOBE*. 3¼in. (9cm.) diam. in case

£2,500-3,500

\$3,200-4,400

€2,900-4,000



186

**186  
A PAIR OF 3-INCH GLOBES**

NEWTON, SON & BERRY CIRCA 1850

The globes comprised of 12 hand-coloured engraved gores, with cartouches *NEWTON'S New & Improved TERRESTRIAL GLOBE* Published by *Newton, Son & Berry 66 Chancery Lane, LONDON* and *NEWTON'S Improved Pocket CELESTIAL GLOBE*, each held horizontally in later ebonised turned wooden stands with gilt floral motifs. 6in. (15cm.) high (2)

£3,000-5,000

\$3,800-6,200

€3,500-5,800



187



187

**187**  
**THREE SMALL GLOBES**  
 19TH CENTURY AND LATER

A Japanese terrestrial globe, a French miniature globe and a pocket globe by J. Manning.

10in. (26cm.) the tallest

£800-1,200 (3) \$1,000-1,500 €930-1,400

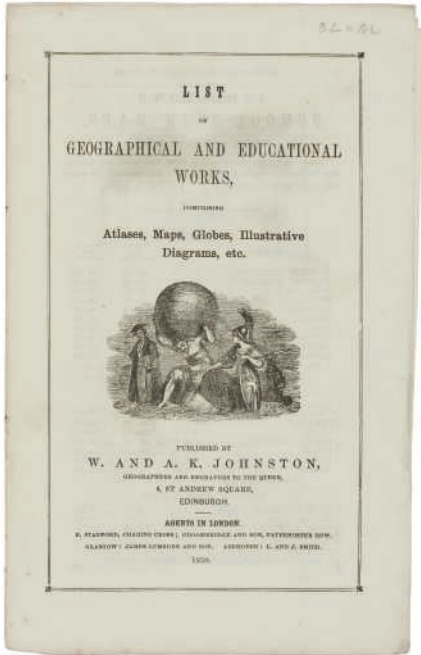
**188**  
**A GROUP OF GLOBE AND CARTOGRAPHIC EPHEMERA**  
 19TH CENTURY AND LATER

A globe and map-maker's catalogue, a globe-maker's invoice, a geographical board game and an albumen photograph of Louis Agassiz with a globe.

17 x 13 x 1½ in. (42.5 x 33.5 x 4.1cm.) (the largest) (4)  
 £800-1,200 \$1,000-1,500 €930-1,400



187



188

H.C.

**J. LEBÈGUE & C<sup>o</sup>**  
ÉDITEURS  
30, Rue de Lille - PARIS (VII<sup>e</sup>)



*Paris le 11 Mars 1874*  
*Monsieur Le Directeur*  
*Le Figaro*

**SPHÈRES TERRESTRES**  
CLASSÉES PAR LANGUES  
avec cartes Françaises, Anglaises,  
Espagnoles, Portugaises  
Cartes de l'États-Majors, etc.

**MOBILIER DE CLASSE**  
Nouvelles Constructions  
OUVRAGES GALVANIQUES  
LIBRAIRIE

*Monsieur, j'ai l'honneur de vous adresser ci-joint un catalogue de vos ouvrages, et de vous prier de vouloir bien m'en faire connaître le montant, et de m'indiquer si vous désirez que je vous envoie un échantillon de vos ouvrages. Je vous prie d'agréer, Monsieur, l'assurance de ma haute et respectueuse considération.*

*J. Lebègue & C<sup>o</sup>*

188



188



188



**189**

**PAIR OF ENGLISH TABLE GLOBES**

G. F. CRUTCHLEY, CIRCA 1854

The 12-inch globe comprised of twelve hand-coloured engraved gores, each with hour rings supported in graduated brass meridian rings, supported on turned beech tripod stands carrying calendrical horizon rings, the catourche *CRUTCHLEY'S LATE CARY NEW TERRESTRIAL GLOBE From the most recent Authorities EXHIBITING THE LATEST DISCOVERIES TOWARDS THE NORTH POLE And the new Settlements & Divisions of AUSTRALIA NEW ZEALAND. CALIFORNIA TEXAS &nbsp;LONDON G.F. CRUTCHLEY, MAP SELLER, GLOBE MAKER & PUBLISHER 81 FLEET STREET Additions to January 1 [18]54.*

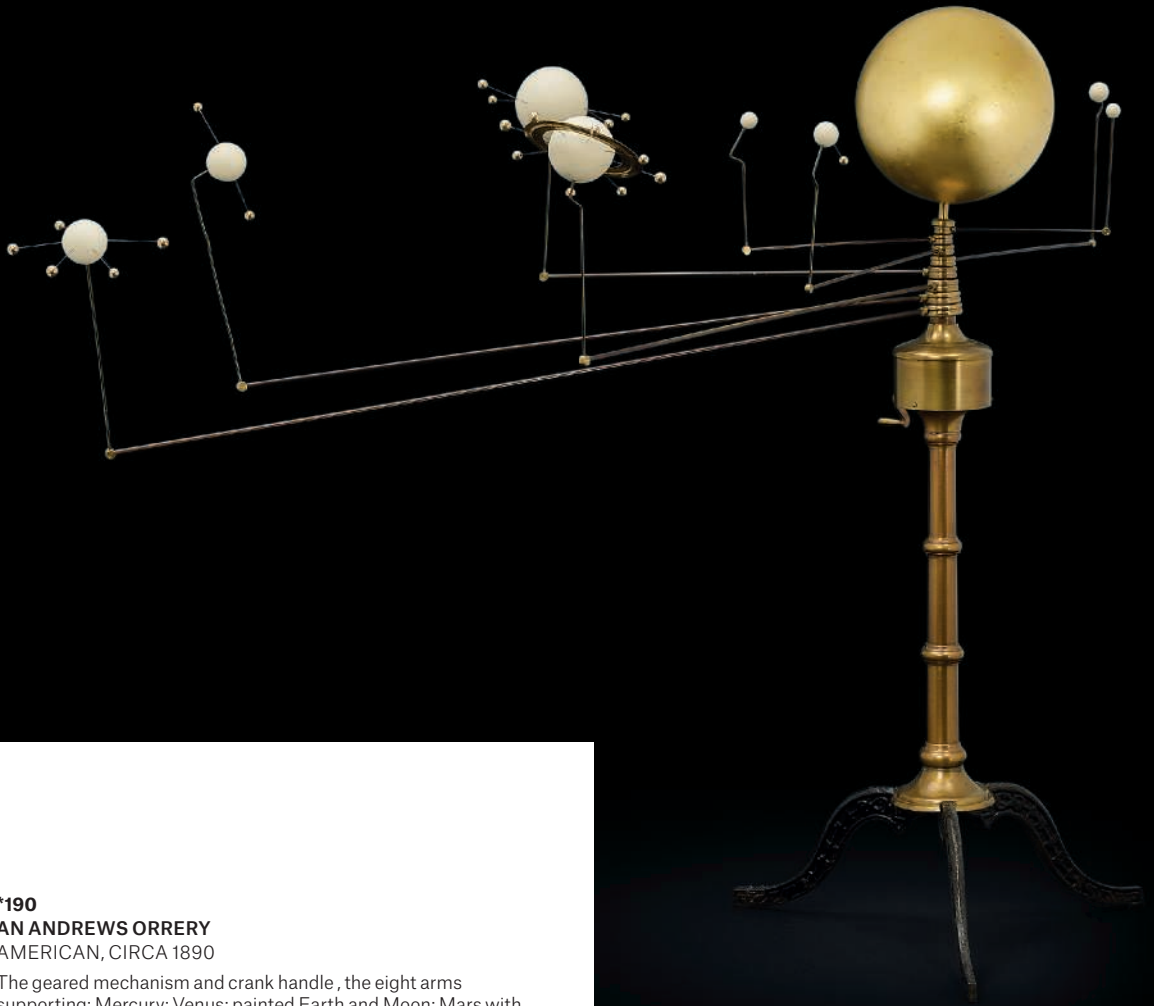
18in. (46cm.) high

(2)

£5,000-8,000

\$6,300-10,000

€5,800-9,200



**\*190**  
**AN ANDREWS ORRERY**  
AMERICAN, CIRCA 1890

The geared mechanism and crank handle, the eight arms supporting: Mercury; Venus; painted Earth and Moon; Mars with two satellites; Jupiter with four satellites; Saturn with two rings and eight satellites; Uranus with four satellites and Neptune with six, supported on lacquered brass column with folding tripod feet.

24½ in. (62cm.) high

£7,000-9,000

\$8,800-11,000

€8,100-10,000



■191

**A PAIR OF MATCHED ITALIAN TABLE GLOBES**

AFTER CASSINI, CIRCA 1843

The 13-inch globe comprised of twelve gores and two polar calottes the cartouche to terrestrial *GLOBO TERRESTRE. NUOVAMENTE DELINEATO RETTIFICATO ED ACCRSCIUTO GIUSTA LE PIU RECENTI SCOPERTE ROMA PRESSO LA CALCOGRAPHIA CAMELARE* 1843 the celestial with cartouche *GLOBO CELESTE calculate per il corrente anno sulle - Osservazioni de Sigg. Flamsteed e de la Caille ROMA Presso la Calc. Cam.le 1792 Ineiso dal P. Gio Ma Cassini C.R.S.* both held in plain brass meridian rings supported on later stands.

20in. (51cm.) high  
£10,000-15,000

(2)

\$13,000-19,000  
€12,000-17,000

## SCIENTIFIC INSTRUMENTS AND BOOKS (LOTS 192-202)



PROPERTY FROM THE NEW YORK APARTMENT OF DAVID EASTON AND JAMES STEINMEYER

**\*192**

### **A GEORGE III STANDING UNIVERSAL EQUINOCTIAL RING DIAL ENGLISH, MID 18TH CENTURY**

The brass dial with meridian ring with hours *I-XII-I-XII* divided to the minute, scales on upper and inner edges, equinoctial ring with degree scale  $90^{\circ}$ - $0$ - $90^{\circ}$ , the bridge with sliding pin-hole gnomon on calendrical scales with zodiacal scales to reverse, the two rings engraved on their reverse with latitudes for 48 towns and cities, a turn-key in a 10-inch outer ring supported via floral engraved plates to geared horizontal plate rotating with a turn-key marked with calendar, and vernier, and *WATCH SLOWER WATCH FASTER*, inset with a 16-point compass rose with degree scales and two bubble levels, supported on bronzed wooden stand.

42 x 27 x 27cm

£20,000-30,000

\$25,000-37,000

€24,000-35,000

#### **PROVENANCE:**

Acquired from Harriet Wynter by the present owner in 1993





**A LARGE BRASS ASTROLABE**

MELCHIOR TAVERNIER, 1632

The brass mater with throne and suspension shackle above, the rim graduated with two degree scales and one for hours, the inside of the womb plain with two plates, the first with stereographic projections to each side for 45° and 51°, the second with stereographic projection for 48° and a universal projection to reverse, rule with engraved decoartion atop pin with thread and finial to reverse. The reverse of the astrolabe signed *Par M. Tournier. 1632.* beneath a shadow square, a trigonometric grid and a diagram of equal hours, around these a lunar calendar, epact, solar cycle, Dominical letters for years 1628-1672, monthly calendar and zodiac scales with finely engraved representations of their constellations, the decorated alidade with three folding sight vanes. The rete with graduated ecliptic, cut away for three stars.

12in. (31cm.) high

£80,000-120,000

\$100,000-150,000

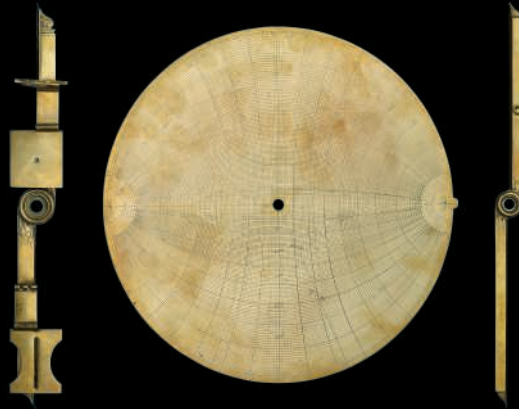
€93,000-140,000

The astrolabe's origin probably dates at least as far back as the ancient Greek astronomer Hipparchus (c. 190-120 BC). As with so much astronomy, through the traditions of medieval Islamic science it was reintroduced to the Latin West by the thirteenth century, where it became a key time-telling instrument. Their production in Europe reached its zenith in the late Renaissance when they were made for princely collections and came to be the iconic instrument of astronomical knowledge.

A brass plate, the *rete*, carries hooked pointers for named stars and acts as a rotating celestial map above a grid that shows the lines of altitude and azimuth in the night sky; the owner of the astrolabe would be able to change the plate carrying the grid depending on how far North or South they were — the mapping of the night sky onto a flat disc is done via a stereographic projection. The reverse of the astrolabe carries a compendium of different projections, a sundial and grid for trigonometry calculations, a calendar and a shadow square that can be used to measure the heights of buildings. Around the back plate rotates an alidade with pinhole sights that are used to observe the height of the Sun or a given star (the taking of a star's position gives the ancient Greek etymology *astro-labos*, 'star-taker').

Melchior Tavernier (1564-1641) is recorded as a map dealer and publisher in Paris working from L'Isle du Palais with a Royal appointment as 'Graveur et Imprimeur du Roy'. His nephew, Melchior Tavernier the Younger (1594-1665) carried on publishing at the same address after 1641, and other than a book on sundials no other instruments are known to survive by the Tavernier family. Tooley records them as cooperating with two great names of cartography - Hondius and Jansson. The style of engraving on whose later globes bears a strong resemblance to this astrolabe. Whilst stylistic similarities to the astrolabes of makers from the Louvain school such as Arsenius or Zeelst is perhaps a result of the Taverniers being born in Antwerp before moving to Paris, the reverse of the mater is reminiscent of an astrolabe attributed to Philippe Danfrie at the Museum of the History of Science in Oxford (Inv. no. 35082). The pierced ecliptic on the rete to accommodate the pointers of certain stars is a particularly elegant and perhaps unique feature this important survival.





**Stars marked on rete:**

Spica [Scorpius]  
 Lucida Hydra 1  
 Canis minor 1  
 Canis major 1  
 Dexter humerus Orionis 2  
 Media ensis Orionis 2  
 Sinister pes Orionis  
 Oculus [Taurus] 1  
 Australis Caudae Ceti 3  
 Bor. Caudae Ceti 3  
 Cauda Ceti 3  
 Cauda [Capricornus] praecedens 3  
 L:anx borealis 2  
 Dexter ala Corui 3  
 Cauda [Leo] 1  
 Cor. [Leo] 1  
 Pollux 3  
 Castor 3

Hircus 1  
 Dexter latus Persei 2  
 Algol 2  
 Borealior pleiadum 5  
 Apex [Triangulum] 4  
 Cornu [Aries] prae 3  
 Umbilicus Andromedae 3  
 Humerus Pegasi 2  
 Pectus Casiopeae 3  
 1.a 3 Caudae Ursae maioris 2  
 Arcturus 1  
 Lucida Coromae 2  
 Lucida Lyrae 1  
 Cauda Cigni 2  
 Caput Herculis  
 Caput Ophinchi  
 Lucida Vulturis 2





**0194**

WEINMANN, Johann Wilhelm (1683-1741). *Duidelyke Vertoning, Eeniger Duizend in alle vier waerelds deelen wassende Bomen, Stammen, Kruiden, Bloemen, Vrugten, en Uitwassen*. Amsterdam: Zacharias Romberg, 1746-1739-1746-1748. 4 volumes of plates, 2° (401 x 245mm). Dutch titles printed in red and black. 1025 engraved and mezzotint plates by B. Seuter, J.E. Ridinger and J.J. Haid after G.D. Ehret, N. Asamin and others, all printed in colours and finished by hand, 11 of which double-page and 4 folding. (Lacking all the text, plates 659 and 660 with minor marginal finger-soiling, 968-970 with tiny nicks at fore-edge, 317 and 850 lightly stained at head.) Contemporary mottled calf gilt, marbled endpapers, red edges (extremities faintly rubbed, spines a touch faded).

FRESH, CRISP COPY OF ONE OF THE GREATEST BOTANICAL BOOKS. Based on Weinmann's collection of plants and financed by him, this is one of the earliest works to use colour-printing from a single plate. A full record of the flowers, fruit and vegetables cultivated in the early 18th century, it was Georg Dionysius Ehret's first major commission. However, the artist parted with Weinmann after producing 500 designs in a year and receiving only twenty thaler for his work, and his name does not appear on the plates. Many plates are 'of particular interest on account of the colour printing, especially the plates of Aloes and Cactus depicted in pots of different designs' (Dunthorne). A FINE COPY OF THE DUTCH EDITION. Arnold Arboretum I, 290; Brunet II, 704 (under Dietrichs); Dunthorne 327; Pritzel 10140; Stafleu and Cowan 17.050. (4)

£35,000-45,000

\$44,000-56,000

€41,000-52,000

**Δ-195**

WILLIAM HOOKER (1779-1832)

*Pomona Londinensis*. London: James Moyes for the author: 1818. 4° (335 x 270mm). 40 (of 49) aquatints printed in colour and finished by hand. (Occasional light marginal dust-soiling.)

Together with loose and defective accompanying text within original printed paper wrappers (wrappers lightly spotted, a few margins dust-soiled). Nissen BB/ 913. Sold as a collection of plates, not subject to return.

£500-1,000

\$630-1,200

€580-1,200



195

**196**

**SIX MUGGLETONIAN ASTRONOMICAL PRINTS**

AFTER ISAAC FROST, 1846

Engravings printed in colour, from *Two Systems of Astronomy* (1846), plates 1 (The Newtonian System of the Universe), 3 (The Newtonian System), 6 (The Newtonian System), 7 (System According to the Holy Scriptures), 9 (System According to the Holy Scriptures) and 10 (Night - System According to the Holy Scriptures), engraved by Clubb & Son, printed by G. Baxter. each 28.3 x 34.4 x 1.5cm. in frame (6)

£1,500-2,500

\$1,900-3,100

€1,800-2,900



196



196



196



196



197

**A THREE-ROTOR ENIGMA CIPHER MACHINE**

HEIMSOETH & RINKE, CIRCA 1937

Number A7762, with complete electrical wiring, three matching aluminium rotors I, II, III, raised 'QWERTZ' keyboard with crackle black painted metal case, plugboard in the front with nine patch leads, in wooden carrying case with two patch leads with green night-time filter and date(?) plaque 1937.

13¼ x 11 x 6in. (34 x 28 x 15cm.)

€50,000-80,000

\$63,000-100,000

€58,000-92,000

The three-rotor ENIGMA, the standard German electronic ciphering machine widely used in World War II. It derives from a 1919 patent of a Dutch inventor, H.A. Koch; an early design marketed by Dr. Arthur Scherbius was bought out by the German military in 1929 and placed in service. ENIGMA in several variants was used by the German Navy, the Wehrmacht, the Luftwaffe, the state railroad system, the Abwehr (intelligence) and the SS.

It was designed with a complex, interchangeable series of three rotors bearing the 26-character alphabet, a 'reflector' and a plugboard with movable connecting cords that connected pairs of letters. As an added precaution, the base or starting

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ENIGMA was widely regarded by the Germans as too complex to be broken, but in the 1930s a team of Polish analysts (Marian Rejewski, Jerzy Rszczycki and Henryk Zygalski) made remarkable progress in working out the machine's basic system, identified its vulnerabilities and succeeded in deciphering much of the encrypted German radio traffic. Their findings, including plans for very useful mechanical devices known as 'bombes', which aided in the decryption operation, were secretly passed on in 1939 to French and British investigators. An elite team of cryptanalysts, mathematicians and engineers including Alan Turing (1912-54) were established in a top-secret facility at Bletchley Park. For the rest of the war that legendary team's heroic and unstinting efforts gradually accomplished the seemingly insurmountable task of deciphering an enormous volume of encrypted communications. The critical intelligence deriving from their decipherment was dubbed ULTRA and was employed cautiously but to great effect during the war; some commentators credit ULTRA with shortening the war by some two years.



-198

**CASE OF SILVER AND IVORY DRAWING INSTRUMENTS**

THOMAS HEATH, CIRCA 1730

The complete set with 3-inch ivory sector signed to silver hinge *T. Heath Fecit*, in original fishskin case.  
4in. (10cm.) high

£3,000-5,000

\$3,800-6,200

€3,500-5,800



199

■199

**DEMONSTRATION APPARATUS FOR THE COEFFICIENT OF FRICTION**

19TH CENTURY, POSSIBLY GERMAN

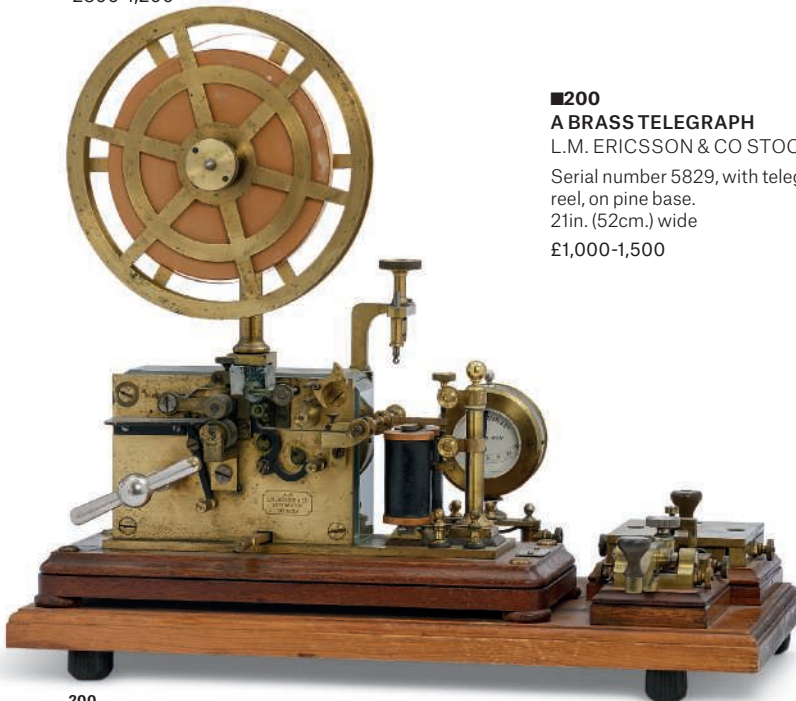
The oak and brass table with hinged arm moving on degree scale 0-53°, divided by 1° numbered every 10°, the pulleys systems lackign string, with two brass weights, on four screw feet.

24in. (61cm.) wide

£800-1,200

\$1,000-1,500

€930-1,400



■200

**A BRASS TELEGRAPH**

L.M. ERICSSON & CO STOCKHOLM, CIRCA 1890

Serial number 5829, with telegraph key, galvanometer, printing reel, on pine base.

21in. (52cm.) wide

£1,000-1,500

\$1,300-1,900

€1,200-1,700

200



-201

**AN IVORY SET OF NAPIER'S BONES**

GERMAN, EARLY 18TH CENTURY

Comprising of broad rod for cubes and squares, single fixed multiplier rod and eleven multiplier rods, in gilt tooled mottled leather case.

2 $\frac{3}{4}$ in, (7cm.) wide

£5,000-8,000

\$6,300-10,000

€5,800-9,200





**202**

**A THREE-ROTOR ENIGMA CIPHER MACHINE**

KONSKI & KRUEGER; CIRCA 1931

Number A604, with complete electrical wiring, five facsimile aluminium rotors, stamped I-V, two kept in separate case, raised 'QWERTZ' keyboard with crackle black painted metal case, plugboard in the front with six patch leads, in wooden carrying case with spare bulbs and two patch leads with green night-time filter - with telegraph key and two facsimile user manuals. 13¼ x 11 x 6 in. (34 x 28 x 15cm.) (4)

£60,000-90,000

\$75,000-110,000

€70,000-100,000

**EXHIBITED:**

Bletchley Park: 5 May 2014 - 2 August 2016

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END OF SALE

# CONDITIONS OF SALE • BUYING AT CHRISTIE'S

## CONDITIONS OF SALE

These Conditions of Sale and the Important Notices and Explanation of Cataloguing Practice set out the terms on which we offer the lots listed in this catalogue for sale. By registering to bid and/or by bidding at auction you agree to these terms, so you should read them carefully before doing so. You will find a glossary at the end explaining the meaning of the words and expressions coloured in bold.

Unless we own a lot (A symbol, Christie's acts as agent for the seller.

## A BEFORE THE SALE

### 1 DESCRIPTION OF LOTS

(a) Certain words used in the catalogue description have special meanings. You can find details of these on the page headed 'Important Notices and Explanation of Cataloguing Practice' which forms part of these terms. You can find a key to the Symbols below next to certain catalogue entries under the section of the catalogue called 'Symbols Used in the Catalogue'.

(b) Our description of any lot in the catalogue, any condition report and any other statement made by us (whether orally or in writing) about any lot, including about its nature or condition, artist, period, materials, approximate dimensions or provenance and our opinion and any other statement made by us as a statement of fact. We do not carry out in-depth research of the sort carried out by professional historians and scholars. All dimensions and weights are approximate only.

### 2 OUR RESPONSIBILITY FOR OUR DESCRIPTION OF LOTS

We do not provide any guarantee in relation to the nature of a lot apart from our **authenticity warranty** contained in paragraph E2 and to the extent provided in paragraph I below.

### 3 CONDITION

(a) The condition of lots sold in our auctions can vary widely due to factors such as age, previous damage, restoration, repair and wear and tear. Their nature means that they will rarely be in perfect condition. Lots are sold 'as is', in the condition they are in at the time of the sale, without any representation or warranty or assumption of liability of any kind as to condition by Christie's or by the seller.

(b) Any reference to condition in a catalogue entry or in a condition report will not amount to a full description of condition, and images may not show a lot clearly. Colours and shades may look different in print or on screen to how they look on physical inspection. Condition reports may be available to help you evaluate the condition of a lot. Condition reports are provided free of charge as a convenience and are for guidance only. They offer our opinion but they may not refer to all faults, inherent defects, restoration, alteration or adaptation because our staff are not professional restorers or conservators. For that reason they are not an alternative to examining a lot in person or taking your own professional advice. It is your responsibility to ensure that you have requested, received and considered any condition report.

### 4 VIEWING LOTS PRE-AUCTION

(a) If you are planning to bid on a lot, you should inspect it personally or through a knowledgeable representative before you make a bid to make sure that you accept the description and its condition. We recommend you get your own advice from a restorer or other professional adviser.

(b) Pre-auction viewings are open to the public free of charge. Our specialists may be available to answer questions at pre-auction viewings or by appointment.

### 5 ESTIMATES

Estimates are based on the condition, rarity, quality and provenance of the lots and on prices recently paid at auction for similar property. Estimates can change. Neither you, nor anyone else, may rely on any estimates as a prediction or guarantee of the actual selling price of a lot or its value for any other purpose. Estimates do not include the buyer's premium or any applicable taxes.

### 6 WITHDRAWAL

Christie's may, at its option, withdraw any lot at any time prior to or during the sale of the lot. Christie's has no liability to you for any decision to withdraw.

### 7 JEWELLERY

(a) Coloured gemstones (such as rubies, sapphires and emeralds) may have been treated to improve their look, through methods such as heating and oiling. These methods are accepted by the international jewellery trade but may make the gemstone less strong and/or require special care over time.

(b) All types of gemstones may have been improved by some method. You may request a gemmological report for any item which does not have a report if the request is made to us at least three weeks before the date of the auction and you pay the fee for the report.

(c) We do not obtain a gemmological report for every gemstone sold in our auctions. Where we do get gemmological reports from internationally recognised gemmological laboratories, such reports will be described in the catalogue. Reports from American gemmological laboratories will describe any improvement or treatment to the gemstone. Reports from European gemmological laboratories will describe any improvement or treatment only if we request that they do so, but will confirm when no improvement or treatment has been made. Because of differences in approach and technology, laboratories may not agree whether a particular gemstone has been treated, the amount of treatment or whether treatment is permanent. The gemmological laboratories will only report on the improvements or treatments known to the laboratories at the date of the report.

(d) For jewellery sales, estimates are based on the information in any gemmological report or, if no report is available, assume that the gemstones may have been treated or enhanced.

### 8 WATCHES & CLOCKS

(a) Almost all clocks and watches are repaired in their lifetime and may include parts which are not original. We do not give a warranty that any individual component part of any watch or clock is authentic. Watchbands described as 'associated' are not part of the original watch and may not be authentic. Clocks may be sold without pendulums, weights or keys.

(b) As collectors' watches and clocks often have very fine and complex mechanisms, a general service, change of battery or further repair work may be necessary, for which you are responsible. We do not give a warranty that any watch or clock is in good working order. Certificates are not available unless described in the catalogue.

(c) Most watches have been opened to find out the type and quality of movement. For that reason, watches with water resistant cases may not be waterproof and we recommend you have them checked by a competent watchmaker before use. Important information about the sale, transport and shipping of watches and watchbands can be found in paragraph H2(g).

### B REGISTERING TO BID

#### 1 NEW BIDDERS

(a) If this is your first time bidding at Christie's or you are a returning bidder who has not bought anything from any of our salerooms within the last year you must register at least 48 hours before an auction to give us enough time to process and approve your registration. We may, at our option, decline to permit you to register as a bidder. You will be asked for the following:

(i) for individuals: Photo identification (driving licence, national identity card or passport, if not shown on the ID document, proof of your current address (for example, a current utility bill or bank statement).

(ii) for corporate clients: Your Certificate of Incorporation or equivalent documents) showing your name and registered address together with documentary proof of directors and beneficial owners; and

(iii) for trusts, partnerships, offshore companies and other business structures, please contact us in advance to discuss our requirements.

(b) We may also ask you to give us a financial reference and/or a deposit as a condition of allowing you to bid. For help, please contact our Credit Department on +44 (0)20 7839 9060.

#### 2 RETURNING BIDDERS

We may at our option ask you for current identification as described in paragraph B1(a) above, a financial reference or a deposit as a condition of allowing you to bid. If you have not bought anything from any of our salerooms in the last two years or if you want to spend more than on previous occasions, please contact our Credit Department on +44 (0)20 7839 9060.

#### 3 IF YOU FAIL TO PROVIDE THE RIGHT DOCUMENTS

If in our opinion you do not satisfy our bidder identification and registration procedures including, but not limited to completing any anti-money laundering and/or anti-terrorism financing checks we may require to our satisfaction, we may refuse to register you to bid, and if you make a successful bid, we may cancel the contract for sale between you and the seller.

#### 4 BIDDING ON BEHALF OF ANOTHER PERSON

(a) As authorised bidder. If you are bidding on behalf of another person, that person will need to complete the registration requirements above before you can bid, and supply a signed letter authorising you to bid for him/her.

(b) As agent for an undisclosed principal: If you are bidding as an agent for an undisclosed principal (the ultimate buyer(s)), you accept personal liability to pay the purchase price and all other sums due. Further, you warrant that:

(i) you have conducted appropriate customer due diligence on the ultimate buyer(s) of the lot(s) in accordance with any and all applicable anti-money laundering and sanctions laws, consent to us relying on this due diligence, and you will retain for a period of not less than five years the documentation and records evidencing the due diligence;

(ii) you will make such documentation and records evidencing your due diligence promptly available for immediate inspection by an independent third-party auditor upon our written request to do so. You will not disclose such documentation and records to any third-parties unless (1) it is already in the public domain, (2) it is required to be disclosed by law, or (3) it is in accordance with anti-money laundering laws;

(iii) the arrangements between you and the ultimate buyer(s) are not designed to facilitate tax crimes;

(iv) you do not know, and have no reason to suspect, that the funds used for settlement are connected with, the proceeds of any criminal activity or that the ultimate buyer(s) are under investigation, charged with or convicted of money laundering, terrorist activities or other money laundering predicate crimes.

A bidder accepts personal liability to pay the purchase price and all other sums due unless it has been agreed in writing with Christie's before commencement of the auction that the bidder is acting as an agent on behalf of a named third party acceptable to Christie's and that Christie's will only seek payment from the named third party.

#### 5 BIDDING IN PERSON

If you wish to bid in the saleroom you must register for a numbered bidding paddle at least 30 minutes before the auction. You may register online at [www.christies.com](http://www.christies.com) or in person. For help, please contact the Credit Department on +44 (0)20 7839 9060.

## 6 BIDDING SERVICES

The bidding services described below are a free service offered as a convenience to our clients and Christie's is not responsible for any error (human or otherwise), omission or breakdown in providing these services.

### (a) Phone Bids

Your request for this service must be made no later than 24 hours prior to the auction. We will accept bids by telephone for lots only if our staff are available to take the bids. If you need to bid in a language other than in English, you must arrange this well before the auction. We may record telephone bids. By bidding on the telephone, you are agreeing to us recording your conversations. You also agree that your telephone bids are governed by these Conditions of Sale.

### (b) Internet Bids on Christie's Live™

For certain auctions we will accept bids over the Internet. Please visit [www.christies.com/livebidding](http://www.christies.com/livebidding) and click on the 'Bid Live' icon to see details of how to watch, hear and bid at the auction from your computer. As well as these Conditions of Sale, internet bids are governed by the Christie's LIVE™ terms of use which are available on [www.christies.com](http://www.christies.com).

### (c) Written Bids

You can find a Written Bid Form at the back of our catalogues, at Christie's office or by choosing the sale you wish to view the lots online at [www.christies.com](http://www.christies.com). We must receive your completed Written Bid Form at least 24 hours before the auction. Bids must be placed in the currency of the saleroom. The auctioneer will take reasonable steps to carry out written bids at the lowest possible price, taking into account the reserve. If you make a written bid on a lot which does not have a reserve and there is no higher bid than yours, we will bid on your behalf at around 50% of the low estimate or, if lower, the amount of your bid. If we receive written bids on a lot for identical amounts, and at the auction these are the highest bids on the lot, we will sell the lot to the bidder whose written bid we received first.

## C AT THE SALE

### 1 WHO CAN ENTER THE AUCTION

We may, at our option, refuse admission to our premises or decline to permit participation in any auction or to reject any bid.

### 2 RESERVES

Unless otherwise indicated, all lots are subject to a reserve. We identify lots that are offered without reserve with the symbol + next to the lot number. The reserve cannot be more than the lot's low estimate.

### 3 AUCTIONEER'S DISCRETION

The auctioneer can act at his sole option:

- refuse any bid;
- move the bidding backwards or forwards in any way he or she may decide, or change the order of the lots;
- withdraw any lot;
- divide any lot or combine any two or more lots;
- reopen or continue the bidding even after the hammer has fallen; and
- in the case of error or dispute and whether during or after the auction, to continue the bidding, determine the successful bidder, cancel the sale of the lot, or reoffer and resell any lot. If any dispute relating to bidding arises during or after the auction, the auctioneer's decision in exercise of this option is final.

### 4 BIDDING

The auctioneer accepts bids from:

- bidders in the saleroom;
- telephone bidders, and internet bidders through 'Christie's LIVE™' (as shown above in Section B6); and
- written bids (also known as absentee bids or commission bids) left with us by a bidder before the auction.

### 5 BIDDING ON BEHALF OF THE SELLER

The auctioneer may, at his or her sole option, bid on behalf of the seller up to but not including the amount of the reserve either by making consecutive bids or by making bids in response to other bidders. The auctioneer will not identify these as bids made on behalf of the seller and will not make any bid on behalf of the seller at or above the reserve. If lots are offered without reserve, the auctioneer will generally decide to open the bidding at 50% of the low estimate for the lot. If no bid is made at that level, the auctioneer may decide to go backwards at his or her sole option until a bid is made, and then continue up from that amount. In the event that there are no bids on a lot, the auctioneer may deem such lot unsold.

### 6 BID INCREMENTS

Bidding generally starts below the low estimate and increases in steps (bid increments). The auctioneer will decide at his or her sole option where the bidding should start and the bid increments. The usual bid increments are shown for guidance only on the Written Bid Form at the back of this catalogue.

### 7 CURRENCY CONVERTER

The saleroom video screens (and Christie's LIVE™) may show bids in some other major currencies as well as sterling. Any conversion is for guidance only and we cannot be bound by any rate of exchange used. Christie's is not responsible for any error (human or otherwise), omission or breakdown in providing these services.

## 8 SUCCESSFUL BIDS

Unless the auctioneer decides to use his or her discretion as set out in paragraph C3 above, when the auctioneer's hammer strikes, we have accepted the last bid. This means a contract for sale has been formed between the seller and the successful bidder. We will issue an invoice only to the registered bidder who made the successful bid. While we send out invoices by post and/or email after the auction, we do not accept responsibility for telling you whether or not your bid was successful. If you have bid by written bid, you should contact us by telephone or in person as soon as possible after the auction to get details of the outcome of your bid to avoid having to pay unnecessary storage charges.

## 9 LOCAL BIDDING LAWS

You agree that when bidding in any of our sales that you will strictly comply with all local laws and regulations in force at the time of the sale for the relevant sale site.

## D THE BUYER'S PREMIUM, TAXES AND ARTIST'S RESALE ROYALTY

### 1 THE BUYER'S PREMIUM

In addition to the **hammer price**, the successful bidder agrees to pay us a **buyer's premium** on the **hammer price** of each lot sold. On all lots we charge 25% of the **hammer price** up to and including £100,000, 20% on that part of the **hammer price** over £100,000 and up to and including £2,000,000, and 12% of that part of the **hammer price** above £2,000,000.

### 2 TAXES

The successful bidder is responsible for any applicable tax including any VAT, sales or compensating use tax or equivalent tax and wherever such taxes may arise on the **hammer price** and the **buyer's premium**. It is the buyer's responsibility to ascertain and pay all taxes due. You can find details of how VAT and VAT reclaim are dealt with on the section of the catalogue headed 'VAT Symbols and Explanation'. VAT charges and refunds depend on the particular circumstances of the buyer so this section, which is not exhaustive, should be used only as a general guide. In all circumstances EU and UK law takes precedence. If you have any questions about VAT, please contact Christie's VAT Department on +44 (0)20 7389 9060 (email: VAT\_London@christies.com, fax: +44 (0)20 3219 6076). Christie's recommends you obtain your own independent tax advice.

For **lots** Christie's ships to the United States, a state sales or use tax may be due on the **hammer price**, **buyer's premium** and shipping costs on the **lot**, regardless of the nationality or citizenship of the purchaser. Christie's is currently required to collect sales tax for **lots** it ships to the state of New York. The applicable sales tax rate will be determined based upon the state, county, or locale to which the **lot** will be shipped. Successful bidders claiming an exemption from sales tax must provide appropriate documentation to Christie's prior to the release of the **lot**. For shipments to those states for which Christie's is not required to collect sales tax, a successful bidder may be required to remit use tax to that state's taxing authorities. Christie's recommends you obtain your own independent tax advice with further questions.

### 3 ARTIST'S RESALE ROYALTY

In certain countries, local laws entitle the artist or the artist's estate to a royalty known as 'artist's resale right' when an **lot** created by the artist is sold. We identify these **lots** with the symbol **X** next to the **lot** number. If the laws apply to a **lot**, you must pay us an extra amount equal to the royalty. We will pay the royalty to the appropriate authority on the seller's behalf.

The artist's resale royalty applies if the **hammer price** of the **lot** is 1,000 euro or more. The total royalty for any **lot** cannot be more than 12,500 euro. We will work out the artist's resale royalty using the euro to sterling rate of exchange of the European Central Bank on the day of the auction.

**Royalty for the portion of the hammer price (in euros)**

4% up to 50,000  
3% between 50,000.01 and 200,000  
1% between 200,000.01 and 350,000  
0.50% between 350,000.01 and 500,000  
over 500,000, the amount of 0.25% and 12,500 euro.

We will work out the artist's resale royalty using the euro to sterling rate of exchange of the European Central Bank on the day of the auction.

## E WARRANTIES

### 1 SELLER'S WARRANTIES

For each **lot**, the seller gives a **warranty** that the seller:

- is the owner of the **lot** or a joint owner of the **lot** acting with the permission of the other co-owners or, if the seller is not the owner or a joint owner of the **lot**, has the permission of the owner to sell the **lot**, or the right to do so in law; and
- has the right to transfer ownership of the **lot** to the buyer without any restrictions or claims by anyone else.

If either of the above **warranties** are incorrect, the seller shall not have to pay more than the **purchase price** (as defined in paragraph F(i) below) paid by you. We, the seller, will not be responsible to you for any reason for **loss of profits** or **business**, expected savings, loss of opportunity or interest, costs, damages, **other damages** or expenses. The seller gives no **warranty** in relation to any **lot** other than as set out above and, as far as the seller is allowed by law, all **warranties** from the seller to you, and all other obligations upon the seller which may be added to this agreement by law, are excluded.

### 2 OUR AUTHENTICITY WARRANTY

We warrant, subject to the terms below, that the **lots** in our sales are authentic (our **authenticity warranty**). If, within five years of the date of the auction, you satisfy us that your **lot** is not **authentic**, subject to the terms below, we will refund the **purchase price** paid

by you. The meaning of **authentic** can be found in the glossary at the end of these Conditions of Sale. The terms of the **authenticity warranty** are as follows:

- It will be honoured for a period of five years from the date of the auction. After such time, we will not be obligated to honour the **authenticity warranty**.
- It is given only for information shown in **UPPERCASE type** in the first line of the **catalogue description** (the **Heading**). It does not apply any information other than in the **Heading** even if shown in **UPPERCASE type**.
- The **authenticity warranty** does not apply to any **Heading** or part of a **Heading** which is **qualified**. **Qualified** means limited by a clarification in a **lot's catalogue description** or by the use in a **Heading** of one of the terms listed in the section titled **Qualified Headings** on the page of the catalogue headed 'Important Notices and Explanation of Cataloguing Practice'. For example, use of the term 'ATTRIBUTED TO...' in a **Heading** means that the **lot** is in Christie's opinion probably a work by the named artist but no **warranty** is provided that the **lot** is the work of the named artist. Please read the full list of **Qualified Headings** and a **lot's full catalogue description** before bidding.
- The **authenticity warranty** applies to the **Heading** as amended by any **Saleroom Notice**.

- The **authenticity warranty** does not apply where scholarship has developed since the auction leading to a change in generally accepted opinion. Further, it does not apply if the **Heading** either matched the generally accepted opinion of experts at the date of the sale or drew attention to any conflict of opinion.
- The **authenticity warranty** does not apply if the **lot** can only be shown not to be **authentic** by a scientific process which, on the date we published the catalogue, was not available or generally accepted for use, or which was unreasonably expensive or impractical, or which was likely to have damaged the **lot**.
- The benefit of the **authenticity warranty** is only available to the original buyer shown on the invoice for the **lot** issued at the time of the sale and only if the original buyer has owned the **lot** continuously between the date of the auction and the date of claim. It may not be transferred to anyone else.

- In order to claim under the **authenticity warranty** you must:
  - give us written details, including full supporting evidence, of any claim within five years of the date of the auction;
  - at Christie's option, we may require you to provide the written opinions of two recognised experts in the field of the **lot** mutually agreed by you and in any advance confirming that the **lot** is not **authentic**. If we have any doubts, we reserve the right to obtain additional opinions at our expense; and
  - return the **lot** at your expense to the saleroom from which you bought it in the **condition** it was in at the time of sale.

- Your only right under this **authenticity warranty** is to cancel the sale and receive a refund of the **purchase price** paid by you to us. We will not, in any circumstances, be required to pay you more than the **purchase price** nor will we be liable for any loss of profits or business, loss of opportunity or value, expected savings or interest, costs, damages, **other damages** or expenses.

- Books**. Where the **lot** is a book, we give an additional **warranty** for 14 days from the date of the sale that if on collation any **lot** is defective in text or illustration, we will refund your **purchase price**, subject to the following terms:

- This additional **warranty** does not apply to:
  - the absence of blanks, half titles, tissue guards or advertisements, damage in respect of bindings, stains, spotting, marginal tears or other defects not affecting completeness of the text or illustration;
  - drawings, autographs, letters or manuscripts, signed photographs, sketches, stamps or periodicals;
- books** not identified by title;
- lots** sold without a printed estimate;
- books** which are described in the catalogue as sold not subject to return; or
- defects stated in any **condition** report or announced at the time of sale.

- To make a claim under this paragraph you must give written details of the defect and return the **lot** to the saleroom from which you bought it in the same **condition** as at the time of sale, within 14 days of the date of the sale.

- South East Asian Modern and Contemporary Art and Chinese Calligraphy and Painting**. This category does not apply because current scholarship does not permit the making of definitive statements. Christie's does, however, agree to cancel a sale in either of these two categories of art where it has been proven the **lot** is a forgery. Christie's will refund to the original buyer the **purchase price** in accordance with the terms of Christie's authenticity warranty, provided that the original buyer notifies us with full supporting evidence documenting the forgery claim within twelve (12) months of the date of the auction. Such evidence must be satisfactory to us that the **lot** is a forgery in accordance with paragraph E2(ii)(i) above and the **lot** must be returned to us in accordance with E2(ii)(ii) above. Paragraphs E2(b), (c), (d), (e), (f) and (g) and (i) also apply to a claim under these categories.

## F PAYMENT

### 1 HOW TO PAY

- Immediately following the auction, you must pay the **purchase price** using:
  - the **hammer price**; and
  - the **buyer's premium**; and
  - any amounts due under section D3 above; and
  - any duties, goods, sales, use, compensating or service tax or VAT. Payment is due no later than by the end of the seventh calendar day following the date of the auction (the **due date**).

- We will only accept payment from the registered bidder. Once we have accepted payment, we cannot change the buyer's name on an invoice or re-issue the invoice in a different name. You must pay immediately even if you want to export the **lot** and you need an export licence.

(c) You must pay for **lots** bought at Christie's in the United Kingdom in the currency stated on the invoice in one of the following ways:

- Wire transfer
- You must make payments to:  
Lloyds Bank Plc, City Office, PO Box 217, 72 Lombard Street, London EC3P 3BT, Account Number: 00127210, sort code: 30-00-02 Swift code: LOYDGB2LCTRY. IBAN (international bank account number): GB81 0000 0000 0000 0000 0000 0000 0000 0000 0000
- Credit Card.

You must accept major credit cards subject to certain conditions. To make a 'cardholder not present' (CNP) payment, you must complete a CNP authorisation form which you can get from our Cashiers Department. You must send a completed CNP authorisation form by fax to +44 (0)20 7389 2869 or by post to the address set out in paragraph (d) below. If you want to make a CNP payment over the telephone, you must call +44 (0)20 7389 9060. CNP payments cannot be accepted by all salerooms and are subject to certain restrictions. Details of the conditions and restrictions applicable to credit card payments are available from our Cashiers Department, whose details are set out in paragraph (d) below.

If you pay for your purchase using a credit card issued outside the region of the sale, depending on the type of credit card and account you hold, the payment may incur a cross-border transaction fee. If you think this may apply to you, please check with your credit card issuer before making the payment. We reserve the right to charge you any transaction or processing fees which we incur when processing your payment.

Please note that for sales that permit online payment, certain transactions will be ineligible for credit card payment.

- Cash
- You must deposit cash subject to a maximum of £5,000 per buyer per year at our Cashier's Department only (subject to conditions).
- Banker's draft
- You must make these payable to Christie's and there may be conditions.
- Cheque
- You must make cheques payable to Christie's. Cheques must be from accounts in pounds sterling from a United Kingdom bank.
- You must quote the sale number, your invoice number and client number when making a payment. All payments sent by post must be sent to: Christie's, Cashiers Department, 8 King Street, St James's, London SW1Y 6GT.
- For more information please contact our Cashiers Department by phone on +44 (0)20 7389 9060 or fax on +44 (0)20 7389 2869.

## 2. TRANSFERRING OWNERSHIP TO YOU

You will not own the **lot** and ownership of the **lot** will not pass to you until we have received full and clear payment of the **purchase price**, even in circumstances where we have released the **lot** to the buyer.

## 3 TRANSFERRING RISK TO YOU

The **lot** and responsibility for the **lot** will transfer to you from whichever is the earlier of the following:

- When you collect the **lot**; or
- At the end of the 30th day following the date of the auction or, if earlier, the date the **lot** is taken into care by a third party warehouse as set out on the page headed 'Storage and Collection', unless we have agreed otherwise with you in writing.

## 4 WHAT HAPPENS IF YOU DO NOT PAY

If you fail to pay us the **purchase price** in full by the **due date**, we will be entitled to do one or more of the following (as well as enforce our rights under paragraph F5 and any other rights or remedies we have by law):

- to charge interest from the **due date** at a rate of 5% a year above the UK Lloyds Bank base rate from time to time on the unpaid amount due;
  - we can cancel the sale of the **lot**. If we do this, we may sell the **lot** again, publicly or privately on such terms we shall think necessary or appropriate, in which case you must pay us any shortfall between the **purchase price** and the proceeds from the resale. You must also pay all costs, expenses, losses, damages and legal fees we have to pay or may suffer and any shortfall in the seller's commission on the resale;
  - we can pay the seller an amount up to the net proceeds payable in respect of the amount bid by your default in which case you acknowledge and understand that Christie's will have all of the rights of the seller to pursue you for such amounts;
  - we can hold you legally responsible for the **purchase price** and may begin legal proceedings to recover it together with other losses, interest, legal fees and costs as far as we are allowed by law; we can take what you owe us from any amounts which we or any company in the **Christie's Group** may owe you including any deposit or other part-payment which you have paid to us;
  - we can, at our option, reveal your identity and contact details to the seller;
  - we can reject at any future auction any bids made by or on behalf of the buyer or to obtain a deposit from the buyer before accepting any bids;
  - to exercise all the rights and remedies of a person holding security over any property in our possession owned by you, whether by way of pledge, security interest or in any other way as permitted by the law of the place where such property is located. You will be deemed to have granted such security to us and we may retain such property as collateral security for your obligations to us; and
  - we can take any other action we see necessary or appropriate.
- If you owe money to us or to another **Christie's Group** company, we can use any amount you do pay, including any deposit or other part-payment you have made to us, or which we owe you, to set off any amount you owe to us or another **Christie's Group** company for any transaction.
- If you make payment in full after the **due date**, and we choose to accept such payment we may charge you storage and transport costs from the date that is 30 calendar days following the auction in accordance with paragraphs G(d) and (i). In such circumstances paragraph G(d)(v) shall apply.

## 5 KEEPING YOUR PROPERTY

If you use money to us or to another **Christie's Group** company, as well as the rights set out in F4 above, we can use or deal with any of your property we hold or which is held by another **Christie's Group** company in any way we are allowed to by law. We will only release your property to you after you pay us or the relevant **Christie's Group** company in full for what you owe. However, if we choose, we can also sell your property in any way we think appropriate. We will use the proceeds of the sale against any amounts you owe us and we will pay any amount left from that sale to you. If there is a shortfall, you must pay us any difference between the amount we have received from the sale and the amount you owe us.

## G COLLECTION AND STORAGE

- We ask that you collect purchased **lots** promptly following the auction (but note that you may not collect any lot until you have made full and clear payment of all amounts due to us).
- Information on collecting **lots** is set out on the storage and collection page and on an information sheet which you can get from the bidder registration staff or Christie's cashiers on +44 (0)20 7839 9060.
- If you do not collect any **lot** promptly following the auction we can, at our option, remove the **lot** to another Christie's location or an affiliate or third party warehouse.
- If (f) you do not collect a **lot** by the end of the 30th day following the date of the auction, unless otherwise agreed in writing:
  - we will charge you storage costs from that date.
  - We can at our option remove the **lot** to or within an affiliate or third party warehouse and charge you transport costs and administration fees for doing so.
  - we may sell the **lot** in any commercially reasonable way we think appropriate.
  - the storage terms which can be found at [christies.com/](http://christies.com/) of the same shall apply.
- (v) Nothing in this paragraph is intended to limit our rights under paragraph F4.

## H TRANSPORT AND SHIPPING

### 1 TRANSPORT AND SHIPPING

We will enclose a transport and shipping form with each invoice sent to you. You must complete all transport and shipping arrangements. However, we can arrange to pack, transport and ship your property if you ask us to and pay the costs of doing so. We recommend that you ask us for an **estimate**, especially for any large items or items of high value that need professional packing before you bid. We may also suggest other handlers, packers, transporters or experts if you ask us to do so. For more information, please contact Christie's Art Transport on +44 (0)20 7839 9060. See the information set out at [www.christies.com/shipping](http://www.christies.com/shipping) or contact us at [arttransport\\_london@christies.com](mailto:arttransport_london@christies.com). We will take reasonable care when we are handling, packing, transporting and shipping a **lot**. However, if we recommend another company for any of these purposes, we are not responsible for their acts, failure to act or neglect.

### 2 EXPORT AND IMPORT

Any **lot** sold at auction may be affected by laws on exports from the country in which it is sold and the import restrictions of other countries. Many countries require a declaration of export for property leaving the country and/or an import declaration on entry of property into the country. Local laws may prevent you from importing a **lot** or may prevent you selling a **lot** in the country you import it into.

- You alone are responsible for getting advice about and meeting the requirements of any laws or regulations which apply to exporting or importing any **lot** prior to bidding. If you are refused a licence or there is a delay in getting one, you must still pay us in full for the **lot**. We may be able to help you apply for the appropriate licences if you ask us to and pay the fee for doing so. However, if we cannot guarantee that you will get one. For more information, please contact Christie's Art Transport Department on +44 (0)20 7839 9060. See the information set out at [www.christies.com/shipping](http://www.christies.com/shipping) or contact us at [arttransport\\_london@christies.com](mailto:arttransport_london@christies.com).

(b) **Lots made of protected species**  
**Lots** made of or including (regardless of the percentage) endangered and other protected species of wildlife are marked with the symbol - in the catalogue. This material includes, among other things, ivory, tortoiseshell, crocodile skin, rhinoceros horn, walrusbone, certain species of coral, and Brazilian rosewood. You should check the relevant customs laws and regulations before bidding on any **lot** containing wildlife material if you plan to import the **lot** into another country. Several countries refuse to allow you to import property containing these materials, and some other countries require a licence from the relevant regulatory agencies in the country of exportation as well as importation. In some cases, the **lot** can only be shipped with an independent scientific confirmation of species and/or age and you will need to obtain these at your own cost. If a **lot** contains elephant ivory, or any other material that may be confused with elephant ivory (for example, mammoth ivory, walrus ivory, helmeted hornbill ivory), please see further important information in paragraph (c) if you are proposing to import the **lot** into the USA. We will not be obliged to cancel your purchase and refund the **purchase price** if you do not import, import incorrectly or it is seized for any reason by a government authority. It is your responsibility to determine and satisfy the requirements of any applicable laws or regulations relating to the export or import of property containing such protected or regulated material.

### (c) **US import ban on African elephant ivory**

The USA prohibits the import of ivory from the African elephant. Any **lot** containing elephant ivory or other wildlife material that could be easily confused with elephant ivory (for example, mammoth ivory, walrus ivory, helmeted hornbill ivory) can only be imported into the USA with results of a rigorous scientific test acceptable to Fish & Wildlife, which confirms that the material is not African elephant ivory. Where we have conducted such rigorous scientific testing on a **lot** prior to sale, we will make this clear in the lot description. In all other cases, we cannot confirm whether a **lot** contains African elephant ivory, and you will buy that **lot** at your own risk and be

responsible for any scientific test or other reports required for import into the USA at your own cost. If such scientific test is inconclusive or confirms the material is from the African elephant, we will not be obliged to cancel your purchase and refund the **purchase price**.

### (d) **Lots of Iranian origin**

Some countries prohibit or restrict the purchase and/or import of Iranian-origin 'works of conventional craftsmanship' (works that are not by a recognised artist and/or that have a function, for example, bowls, ewers, tiles, ornamental boxes). For example, the USA prohibits the import of this type of property and its purchase by US persons (wherever located). Other countries, such as Canada, only permit the import of this property in certain circumstances. As a convenience to buyers, Christie's indicates under the title of a **lot** if the **lot** originates from Iran (Persia). It is your responsibility to ensure you do not bid on or import a **lot** in contravention of the sanctions or trade embargoes that apply to you.

### (e) **Gold**

Gold of less than 18ct does not qualify in all countries as 'gold' and may be refused import into these countries as 'gold'.

### (f) **Jewellery over 50 years old**

Under current laws, jewellery over 50 years old which is worth £39,219 or more will require an export licence which we can apply for on your behalf. It may take up to eight weeks to obtain the export jewellery licence.

### (g) **Watches**

(i) Many of the watches offered for sale in this catalogue are pictured with straps made of endangered or protected animal materials such as alligator or crocodile. These **lots** are marked with the symbol - in the catalogue. These endangered species straps are shown for display purposes only and are not for sale. Christie's will remove and retain the strap prior to shipment from the sale site. At some sale sites, Christie's may, at its discretion, make the displayed endangered species strap available to the buyer of the **lot** free of charge if collected in person from the sale site within one year of the date of the sale. Please check with the department for details on a particular **lot**. For all symbols and other markings referred to in paragraph H2, please note that **lots** are marked as a convenience to you, but we do not accept liability for errors or for failing to mark **lots**.

## I OUR LIABILITY TO YOU

- We give you **warranty** in relation to any statement made, or information given, by us or our representatives or employees, about any **lot** other than as set out in the **authenticity warranty**, and, as far as we are allowed by law, all **warranties** and other terms which may be added to this agreement by law are excluded. The seller's **warranties** contained in paragraph E1 are their own and we do not have any liability to you in relation to those **warranties**.
  - We are not responsible to you for any reason (whether for breaking this agreement or any other matter relating to your purchase of, or bid for, any **lot**) other than in the event of fraud or fraudulent misrepresentation by us or other than as expressly set out in these Conditions of Sale, or
  - give any representation, **warranty** or guarantee or assume any liability of any kind in respect of any **lot** with regard to merchantability, fitness for a particular purpose, description, size, quality, condition, attribution, authenticity, rarity, importance, medium, provenance, exhibition history, literature, or historical relevance. Except as required by local law, any **warranty** of any kind is excluded by this paragraph.
- In particular, please be aware that our written and telephone bidding services, Christie's LIVE™, **condition** reports, currency converter and saleroom video screens are free services and we are not responsible to you for any error (human or otherwise), omission or breakdown in these services.
- We have no responsibility to any person other than a buyer in connection with the purchase of any **lot**.
- If, in spite of the terms in paragraphs (a) to (d) or (E2i) above, we are found to be liable to you for any reason, we shall not have to pay more than the **purchase price** paid by you to us. We will not be responsible to you for any reason for loss of profits or business, loss of opportunity or value, expected savings or interest, costs, damages, or expenses.

## J OTHER TERMS

### 1 OUR ABILITY TO CANCEL

In addition to the other rights of cancellation contained in this agreement, we can cancel a sale of a **lot** if we reasonably believe that completing the transaction is, or may be, unlawful or if the sale places us or the seller under any liability to anyone else or may damage our reputation.

### 2 RECORDINGS

We may videotape and record proceedings at any auction. We will keep any personal information confidential, except to the extent disclosure is required by law. However, we may, through this process, use or share these recordings with another **Christie's Group** company and marketing partners to analyse our customers and to help us to tailor our services for buyers. If you do not want to be videotaped, you may make arrangements to make a telephone or written bid or bid on Christie's LIVE™ instead. Unless we agree otherwise in writing, you may not videotape or record proceedings at any auction.

### 3 COPYRIGHT

We own the copyright in all images, illustrations and written material produced by or for us relating to a **lot** (including the contents of our catalogues unless otherwise noted in the catalogue). You cannot use them without our prior written permission. We do not offer any guarantee that you will gain any copyright or other reproduction rights to the **lot**.

### 4 ENFORCING THIS AGREEMENT

If a court finds that any part of this agreement is not valid or is illegal or impossible to enforce, that part of the agreement will

be treated as being deleted and the rest of this agreement will not be affected.

## 5 TRANSFERRING YOUR RIGHTS AND RESPONSIBILITIES

We may not grant a security over or transfer your rights or responsibilities under these terms on the contract of sale with the buyer unless we have given our written permission. This agreement will be binding on your successors or estate and anyone who takes over your rights and responsibilities.

## 6 TRANSLATIONS

If we have provided a translation of this agreement, we will use this original version in deciding any issues or disputes which arise under this agreement.

## 7 PERSONAL INFORMATION

We will hold and process your personal information and may pass it to another **Christie's Group** company for use as described in, and in line with, our privacy policy at [www.christies.com](http://www.christies.com).

## 8 WAIVER

No failure or delay to exercise any right or remedy provided under these Conditions of Sale shall constitute a waiver of that or any other right or remedy, nor shall it prevent or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall prevent or restrict the further exercise of that or any other right or remedy.

## 9 LAW AND DISPUTES

This agreement, and any non-contractual obligations arising out of or in connection with this agreement, or any other rights you may have relating to the purchase of a **lot** will be governed by the laws of England and Wales. Before we or you start any court proceedings (except in the limited circumstances where the dispute, controversy or issue is related to proceedings brought by someone else and this dispute could be joined to those proceedings), we agree we will each try to settle the dispute by mediation following the Centre for Effective Dispute Resolution (CEDR) Model Mediation Procedure. We will use a mediator affiliated with CEDR who we and you agree to. If the dispute is not settled by mediation, you agree for our benefit that the dispute will be referred to and dealt with exclusively in the courts of England and Wales. However, we will have the right to bring proceedings against you in any other court.

## 10 REPORTING ON WWW.CHRISTIES.COM

Details of all **lots** sold by us, including catalogue descriptions and prices, may be reported on [www.christies.com](http://www.christies.com). Sales totals are **hammer price plus buyer's premium** and do not reflect costs, financing fees, or application of buyer's or seller's credits. We regret that we cannot agree to requests to remove these details from [www.christies.com](http://www.christies.com).

## K GLOSSARY

- authentic:** a genuine example, rather than a copy or forger of;
- (i) the work of a particular artist, author or manufacturer, if the **lot** is described in the **Heading** as the work of that artist, author or manufacturer;
- (ii) a work created within a particular period or culture, if the **lot** is described in the **Heading** as a work created during that period or culture;
- (iii) a work for a particular origin source if the **lot** is described in the **Heading** as being of that origin or source; or
- (iv) in the case of gems, a work which is made of a particular material, if the **lot** is described in the **Heading** as being made of that material.
- authenticity warranty:** the guarantee we give in this agreement that a **lot** is **authentic** as set out in section E2 of this agreement.
- buyer's premium:** the charge the buyer pays us along with the **hammer price**.

**catalogue description:** the description of a **lot** in the catalogue for the auction, as amended by any saleroom notice.

**Christie's Group:** Christie's International Plc, its subsidiaries and other companies within its corporate group.

**condition:** the physical condition of a **lot**.

**due date:** has the meaning given to it in paragraph F1(a).

**estimate:** the price range included in the catalogue or any saleroom notice within which we believe a **lot** may sell. **Low estimate** means the lower figure in the range and **high estimate** means the higher figure. The **mid estimate** is the midpoint between the two.

**hammer price:** the amount of the highest bid the auctioneer accepts for the sale of a **lot**.

**Heading:** has the meaning given to it in paragraph E2.

**lots:** an item to be offered at auction (or two or more items to be offered at auction as a group).

**other damages:** any special, consequential, incidental or indirect damages of any kind or any damages which fall within the meaning of 'special', incidental' or 'consequential' under local law.

**purchase price:** has the meaning given to it in paragraph F1(a).

**provenance:** the ownership history of a **lot**.

**qualified item:** has the meaning given to it in paragraph E2 and **Qualified Headings** means the section headed **Qualified Headings** on the page of the catalogue headed 'Important Notices and Explanation of Cataloguing Practice'.

**reserve:** the confidential amount below which we will not sell a **lot**.

**saleroom notice:** a written notice posted next to the **lot** in the saleroom and on [www.christies.com](http://www.christies.com), which is also read to prospective telephone bidders and notified to clients who have left commission bids, or an announcement made by the auctioneer either at the beginning of the sale, or before a particular **lot** is auctioned.

**UPPER CASE TYPE:** means having all capital letters.

**warranty:** a statement or representation in which the person making it guarantees that the facts set out in it are correct.

## VAT SYMBOLS AND EXPLANATION

You can find a glossary explaining the meanings of words coloured in bold on this page at the end of the section of the catalogue headed 'Conditions of Sale'

### VAT payable

Symbol	
No Symbol	We will use the VAT Margin Scheme. No VAT will be charged on the <b>hammer price</b> . VAT at 20% will be added to the <b>buyer's premium</b> but will not be shown separately on our invoice.
†	We will invoice under standard VAT rules and VAT will be charged at 20% on both the <b>hammer price</b> and <b>buyer's premium</b> and shown separately on our invoice.
θ	For qualifying books only, no VAT is payable on the <b>hammer price</b> or the <b>buyer's premium</b> .
*	These <b>lots</b> have been imported from outside the EU for sale and placed under the Temporary Admission regime. Import VAT is payable at 5% on the <b>hammer price</b> . VAT at 20% will be added to the <b>buyer's premium</b> but will not be shown separately on our invoice.
Ω	These <b>lots</b> have been imported from outside the EU for sale and placed under the Temporary Admission regime. Customs Duty as applicable will be added to the <b>hammer price</b> and Import VAT at 20% will be charged on the Duty Inclusive <b>hammer price</b> . VAT at 20% will be added to the <b>buyer's premium</b> but will not be shown separately on our invoice.
α	The VAT treatment will depend on whether you have registered to bid with an EU or non-EU address: <ul style="list-style-type: none"> <li>If you register to bid with an address <b>within</b> the EU you will be invoiced under the VAT Margin Scheme (see No Symbol above).</li> <li>If you register to bid with an address <b>outside</b> of the EU you will be invoiced under standard VAT rules (see † symbol above)</li> </ul>
‡	For wine offered 'in bond' only. If you choose to buy the wine in bond no Excise Duty or Clearance VAT will be charged on the <b>hammer</b> . If you choose to buy the wine out of bond Excise Duty as applicable will be added to the <b>hammer price</b> and Clearance VAT at 20% will be charged on the Duty inclusive <b>hammer price</b> . Whether you buy the wine in bond or out of bond, 20% VAT will be added to the buyer's premium and shown on the invoice.

### VAT refunds: what can I reclaim?

If you are:

<b>A non VAT registered UK or EU buyer</b>		<b>No VAT refund is possible</b>
<b>UK VAT registered buyer</b>	No symbol and α	<b>The VAT amount in the buyer's premium cannot be refunded.</b> However, on request we can re-invoice you outside of the VAT Margin Scheme under normal UK VAT rules (as if the <b>lot</b> had been sold with a † symbol). Subject to HMRC's rules, you can then reclaim the VAT charged through your own VAT return.
	* and Ω	Subject to HMRC's rules, you can reclaim the Import VAT charged on the <b>hammer price</b> through your own VAT return when you are in receipt of a C79 form issued by HMRC. The VAT amount in the <b>buyer's premium</b> is invoiced under Margin Scheme rules so cannot normally be claimed back. However, if you request to be re-invoiced outside of the Margin Scheme under standard VAT rules (as if the <b>lot</b> had been sold with a † symbol) then, subject to HMRC's rules, you can reclaim the VAT charged through your own VAT return.
<b>EU VAT registered buyer</b>	No Symbol and α	<b>The VAT amount in the buyer's premium cannot be refunded.</b> However, on request we can <b>re-invoice</b> you outside of the VAT Margin Scheme under normal UK VAT rules (as if the <b>lot</b> had been sold with a † symbol). See below for the rules that would then apply.
	†	If you provide us with your EU VAT number we will not charge VAT on the <b>buyer's premium</b> . We will also refund the VAT on the <b>hammer price</b> if you ship the <b>lot</b> from the UK and provide us with proof of shipping, within three months of collection.
	* and Ω	<b>The VAT amount on the hammer and in the buyer's premium cannot be refunded.</b> However, on request we can <b>re-invoice</b> you outside of the VAT Margin Scheme under normal UK VAT rules (as if the <b>lot</b> had been sold with a † symbol). See above for the rules that would then apply.
<b>Non EU buyer</b>		If you meet <b>ALL</b> of the conditions in notes 1 to 3 below we will refund the following tax charges:
	No Symbol	We will refund the VAT amount in the <b>buyer's premium</b> .
	† and α	We will refund the VAT charged on the hammer price. VAT on the buyer's premium can only be refunded if you are an overseas business. The VAT amount in the buyer's premium cannot be refunded to non-trade clients.
	‡ (wine only)	No Excise Duty or Clearance VAT will be charged on the <b>hammer price</b> providing you export the wine while 'in bond' directly outside the EU using an Excise authorised shipper. VAT on the <b>buyer's premium</b> can only be refunded if you are an overseas business. <b>The VAT amount in the buyer's premium cannot be refunded to non-trade clients.</b>
	* and Ω	We will refund the Import VAT charged on the <b>hammer price</b> and the VAT amount in the <b>buyer's premium</b> .

1. We **CANNOT** offer refunds of VAT amounts or Import VAT to buyers who do not meet all applicable conditions in full. If you are unsure whether you will be entitled to a refund, please contact Client Services at the address below **before you bid**.  
2. No VAT amounts or Import VAT will be refunded where the total refund is under £100.

3. In order to receive a refund of VAT amounts/Import VAT (as applicable) non-EU buyers must:  
(a) have registered to bid with an address outside of the EU; and  
(b) provide immediate proof of correct export out of the EU within the required time frames of: 30 days via a 'controlled export' for \* and Ω **lots**. All other **lots** must be exported within three months of collection.

4. Details of the documents which you must provide to us to show satisfactory proof of export/shipping are available from our VAT team at the address below. We charge a processing fee of £35.00 per invoice to check shipping/export documents. We will waive this processing fee if you appoint Christie's Shipping Department to arrange your export/shipping.

5. If you appoint Christie's Art Transport or one of our authorised shippers to arrange your export/shipping we will issue you with an export invoice with the applicable VAT or duties cancelled as outlined above. If you later cancel or change the shipment in a manner that infringes the rules outlined above we will issue a revised invoice charging you all applicable taxes/charges.

6. If you ask us to re-invoice you under normal UK VAT rules (as if the **lot** had been sold with a † symbol) instead of under the Margin Scheme the **lot** may become ineligible to be resold using the Margin Schemes. **Movement within the EU must be within 3 months from the date of sale.** You should take professional advice if you are unsure how this may affect you.

7. All re-invoicing requests must be received within four years from the date of sale. If you have any questions about VAT refunds please contact Christie's Client Services on info@christies.com  
Tel: +44 (0)20 7389 2886.  
Fax: +44 (0)20 7839 1611.

## SYMBOLS USED IN THIS CATALOGUE

The meaning of words coloured in **bold** in this section can be found at the end of the section of the catalogue headed 'Conditions of Sale'.

- Christie's has a direct financial interest in the lot. See Important Notices and Explanation of Cataloguing Practice.
- △ Owned by Christie's or another **Christie's Group** company in whole or part. See Important Notices and Explanation of Cataloguing Practice.
- ◆ Christie's has a direct financial interest in the **lot** and has funded all or part of our interest with the help of someone else. See Important Notices and Explanation of Cataloguing Practice.

- λ Artist's Resale Right. See Section D3 of the Conditions of Sale.
- **Lot** offered without **reserve** which will be sold to the highest bidder regardless of the pre-sale estimate in the catalogue.
- ~ **Lot** incorporates material from endangered species which could result in export restrictions. See Section H2(b) of the Conditions of Sale.

- ? , \* , Ω , α , # , † See VAT Symbols and Explanation.
- See Storage and Collection Pages.

Please note that **lots** are marked as a convenience to you and we shall not be liable for any errors in, or failure to, mark a **lot**.

## IMPORTANT NOTICES AND EXPLANATION OF CATALOGUING PRACTICE

### CHRISTIE'S INTEREST IN PROPERTY CONSIGNED FOR AUCTION

- △ **Property Owned in part or in full by Christie's**  
From time to time, Christie's may offer a **lot** which it owns in whole or in part. Such property is identified in the catalogue with the symbol △ next to its **lot** number.
- **Minimum Price Guarantees**  
On occasion, Christie's has a direct financial interest in the outcome of the sale of certain lots consigned for sale. This will usually be where it has guaranteed to the Seller that whatever the outcome of the auction, the Seller will receive a minimum sale price for the work. This is known as a minimum price guarantee. Where Christie's holds such financial interest we identify such **lots** with the symbol ○ next to the **lot** number.
- ◆ **Third Party Guarantees/Irrevocable bids**  
Where Christie's has provided a Minimum Price Guarantee it is at risk of making a loss, which can be significant, if the **lot** fails to sell. Christie's therefore sometimes chooses to share that risk with a third party. In such cases the third party agrees prior to the auction to place an irrevocable written bid on the **lot**. The third party is therefore committed to bidding on the **lot**, even if there are no other bids, buying the **lot** at the level of the written bid unless there are any higher bids. In doing so, the third party takes on all or part of the risk of the **lot** not being sold. If the **lot** is not sold, the third party may incur a loss. **Lots** which are subject to a third party guarantee arrangement are identified in the catalogue with the symbol ◆.

In most cases, Christie's compensates the third party in exchange for accepting this risk. Where the third party is the successful bidder, the third party's remuneration is based on a fixed financing fee. If the third party is not the successful bidder, the remuneration may either be based on a fixed fee or an amount calculated against the final **hammer price**. The third party may also bid for the **lot** above the written bid. Where the third party is the successful bidder, Christie's will report the final **purchase price** net of the fixed financing fee.

Third party guarantors are required by us to disclose to anyone they are advising their financial interest in any **lots** they are guaranteeing. However, for the avoidance of any doubt, if you are advised by or bidding through an agent on a **lot** identified as being subject to a third party guarantee you should always ask your agent to confirm whether or not he or she has a financial

interest in relation to the **lot**.

**Other Arrangements**  
Christie's may enter into other arrangements not involving bids. These include arrangements where Christie's has given the Seller an Advance on the proceeds of sale of the **lot** or where Christie's has shared the risk of a guarantee with a partner without the partner being required to place an irrevocable written bid or otherwise participating in the bidding on the **lot**. Because such arrangements are unrelated to the bidding process they are not marked with a symbol in the catalogue.

**Bidding by parties with an interest**  
In any case where a party has a financial interest in a **lot** and intends to bid on it we will make a saleroom announcement to ensure that all bidders are aware of this. Such financial interests can include where beneficiaries of an Estate have reserved the right to bid on a **lot** consigned by the Estate or where a partner in a risk-sharing arrangement has reserved the right to bid on a **lot** and/or notified us of their intention to bid.

Please see <http://www.christies.com/financial-interest/> for a more detailed explanation of minimum price guarantees and third party financing arrangements.

Where Christie's has an ownership or financial interest in every **lot** in the catalogue, Christie's will not designate each **lot** with a symbol, but will state its interest in the front of the catalogue.

### POST 1950 FURNITURE

All items of post-1950 furniture included in this sale are items either not originally supplied for use in a private home or now offered solely as works of art. These items may not comply with the provisions of the Furniture and Furnishings (Fire) (Safety) Regulations 1988 (as amended in 1989 and 1993, the 'Regulations'). Accordingly, these items should not be used as furniture in your home in their current condition. If you do intend to use such items for this purpose, you must first ensure that they are reupholstered, restuffed and/or recovered (as appropriate) in order that they comply with the provisions of the Regulations.

### BOOKS

If, on collation, any named item in this catalogue proves defective in text or illustration, the lot may be returned within 14 days of the sale with the defect stated in writing. This proviso shall not apply to defects stated in the catalogue or announced at the time of sale; nor to the absence of blanks, half titles, tissue guards or advertisements, damage in respect of bindings, stains, spotting, marginal tears, or other defects not affecting completeness of text or illustration; nor to drawings, autographs, letters or manuscripts, signed photographs, music, atlases, maps or periodicals; nor to books not identified by title; nor to lots sold without printed estimates or described in the catalogue as sold not subject to return. Buyers are advised to clear their lots within ten days of the sale or storage charges will be incurred. Please note the Conditions of Sale printed at the end of this catalogue.

## STORAGE AND COLLECTION

### COLLECTION LOCATION AND TERMS

Specified **lots** (sold and unsold) marked with a filled square (■) not collected from Christie's by 5.00 pm on the day of the sale will, at our option, be removed to Cadogan Tate Ltd. Christie's will inform you if the **lot** has been sent offsite. Our removal and storage of the **lot** is subject to the terms and conditions of storage which can be found at [Christies.com/storage](http://Christies.com/storage) and our fees for storage are set out in the table below - these will apply whether the **lot** remains with Christie's or is removed elsewhere.

If the **lot** is transferred to Cadogan Tate Ltd, it will be available for collection from 12 noon on the second business day following the sale.

Please call Christie's Client Service 24 hours in advance to book a collection time at Cadogan Tate Ltd. All collections from Cadogan Tate Ltd. will be by pre-booked appointment only.

Tel: +44 (0)20 7839 9060

Email: [csollectionsuk@christies.com](mailto:csollectionsuk@christies.com).

If the **lot** remains at Christie's it will be available for collection on any working day 9.00am to 5.00pm. **Lots** are not available for collection at weekends.

### PAYMENT OF ANY CHARGES DUE

**ALL lots** whether sold or unsold will be subject to storage and administration fees. Please see the details in the table below. Storage Charges may be paid in advance or at the time of collection. **Lots** may only be released on production of the 'Collection Form' from Christie's. **Lots** will not be released until all outstanding charges are settled.

### SHIPPING AND DELIVERY

Christie's Post-Sale Service can organise local deliveries or international freight. Please contact them on +44 (0)20 7752 3200 or [PostSaleUK@christies.com](mailto:PostSaleUK@christies.com). To ensure that arrangements for the transport of your lot can be finalised before the expiry of any free storage period, please contact Christie's Post-Sale Service for a quote as soon as possible after the sale.

### PHYSICAL LOSS & DAMAGE LIABILITY

Christie's will accept liability for physical loss and damage to sold **lots** whilst in storage. Christie's liability will be limited to the invoice purchase price including buyers' premium. Christie's liability will continue until the **lots** are collected by you or an agent acting for you following payment in full. Christie's liability is subject to Christie's Terms and Conditions of Liability posted on [www.christies.com](http://www.christies.com).

ADMINISTRATION FEE, STORAGE & RELATED CHARGES		
CHARGES PER LOT	LARGE OBJECTS E.g. Furniture, Large Paintings & Sculpture	SMALL OBJECTS E.g. Books, Luxury, Ceramics, Small Paintings
1-30 days after the auction	Free of Charge	Free of Charge
31st day onwards: Administration Fee	£70.00	£35.00
Storage per day	£8.00	£4.00
Loss & Damage Liability	Will be charged on purchased lots at 0.5% of the hammer price or capped at the total storage charge, whichever is the lower amount.	
All charges are subject to VAT. Please note that there will be no charge to clients who collect their lots within 30 days of this sale. Size to be determined at Christie's discretion.		

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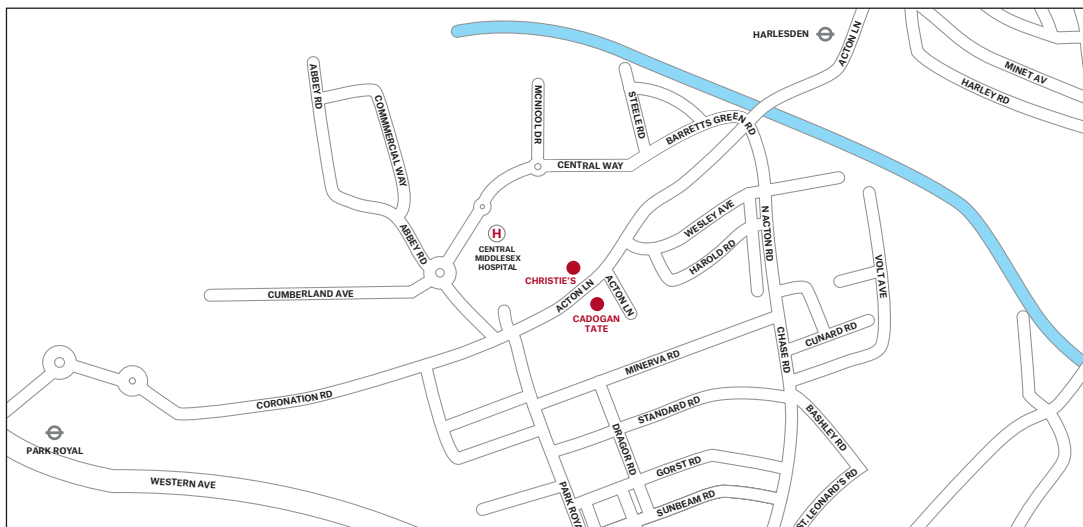
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London NW10 7NQ

### CADOGAN TATE WAREHOUSE

241 Acton Lane,  
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London NW10 7NP

### COLLECTION FROM CADOGAN TATE LTD

Please note that Cadogan Tate Ltd's opening hours are Monday to Friday 9.00 am to 5.00 pm and lots transferred to their warehouse are not available for collection at weekends.





Select Gibeon Meteorite – natural abstract sculpture from outer space

*Iron, fine octahedrite*

7 $\frac{1}{2}$  x 18 $\frac{3}{4}$  x 10 $\frac{1}{2}$ in. (19.5 x 47.5 x 27cm.)

53.4kg

\$70,000–100,000

## DEEP IMPACT

<http://www.christies.com/scienceonline>

*Online Auction, 3–10 May 2017*

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**CHRISTIE'S**



**TRAVEL, SCIENCE & NATURAL HISTORY**  
**THURSDAY 27 APRIL 2017 AT 10.30 AM**

85 Old Brompton Road, London SW7 3LD

**CODE NAME: DRAGONFLY**  
**SALE NUMBER: 14420**

(Dealers billing name and address must agree with tax exemption certificate. Once issued, we cannot change the buyer's name on an invoice or re-issue the invoice in a different name.)

**BID ONLINE FOR THIS SALE AT CHRISTIES.COM**

**BIDDING INCREMENTS**

Bidding generally starts below the **low estimate** and increases in steps (bid increments) of up to 10 per cent. The auctioneer will decide where the bidding should start and the bid increments. Written bids that do not conform to the increments set below may be lowered to the next bidding interval.

UK£100 to UK£2,000	by UK£100s
UK£2,000 to UK£3,000	by UK£200s
UK£3,000 to UK£5,000	by UK£200, 500, 800 (eg UK£4,200, 4,500, 4,800)
UK£5,000 to UK£10,000	by UK£500s
UK£10,000 to UK£20,000	by UK£1,000s
UK£20,000 to UK£30,000	by UK£2,000s
UK£30,000 to UK£50,000	by UK£2,000, 5,000, 8,000 (eg UK£32,200, 35,000, 38,000)
UK£50,000 to UK£100,000	by UK£5,000s
UK£100,000 to UK£120,000	by UK£10,000s
Above UK£200,000	at auctioneer's discretion

The auctioneer may vary the increments during the course of the auction at his or her own discretion.

- I request Christie's to bid on the stated **lots** up to the maximum bid I have indicated for each **lot**.
- I understand that if my bid is successful, the amount payable will be the sum of the **hammer price** and the **buyer's premium** together with any taxes chargeable on the **hammer price** and **buyer's premium** and any applicable Artist's Resale Royalty in accordance with the Conditions of Sale - Buyer's Agreement. The **buyer's premium** rate shall be an amount equal to 25% of the **hammer price** of each **lot** up to and including £100,000, 20% on any amount over £100,000 up to and including £2,000,000 and 12% of the amount above £2,000,000. For wine and cigars there is a flat rate of 17.5% of the **hammer price** of each **lot** sold.
- I agree to be bound by the Conditions of Sale printed in the catalogue.
- I understand that if Christie's receive written bids on a **lot** for identical amounts and at the auction these are the highest bids on the **lot**, Christie's will sell the **lot** to the bidder whose written bid it received and accepted first.
- Written bids submitted on 'no reserve' **lots** will, in the absence of a higher bid, be executed at approximately 50% of the **low estimate** or at the amount of the bid if it is less than 50% of the **low estimate**. I understand that Christie's written bid service is a free service provided for clients and that, while Christie's will be as careful as it reasonably can be, Christie's will not be liable for any problems with this service or loss or damage arising from circumstances beyond Christie's reasonable control.

**Auction Results: +44 (0)20 7839 9060**

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**CHRISTIE'S WILL CONFIRM ALL BIDS RECEIVED BY FAX BY RETURN FAX. IF YOU HAVE NOT RECEIVED CONFIRMATION WITHIN ONE BUSINESS DAY, PLEASE CONTACT THE BID DEPARTMENT:  
TEL: +44 (0)20 7752 3225 • FAX: +44 (0)20 7581 1403 • ON-LINE WWW.CHRISTIES.COM**

**14420**

Client Number (if applicable) \_\_\_\_\_ Sale Number \_\_\_\_\_

Billing Name (please print) \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Daytime Telephone \_\_\_\_\_ Evening Telephone \_\_\_\_\_

Fax (Important) \_\_\_\_\_ E-mail \_\_\_\_\_

Please tick if you prefer not to receive information about our upcoming sales by e-mail

I have read and understood this written bid form and the Conditions of Sale - Buyer's Agreement

Signature \_\_\_\_\_

If you have not previously bid or consigned with Christie's, please attach copies of the following documents. Individuals: government-issued photo identification (such as a driving licence, national identity card, or passport) and, if not shown on the ID document, proof of current address, for example a utility bill or bank statement. Corporate clients: a certificate of incorporation. Other business structures such as trusts, offshore companies or partnerships: please contact the Compliance Department at +44 (0)20 7839 9060 for advice on the information you should supply. If you are registering to bid on behalf of someone who has not previously bid or consigned with Christie's, please attach identification documents for yourself as well as the party on whose behalf you are bidding, together with a signed letter of authorisation from that party. New clients, clients who have not made a purchase from any Christie's office within the last two years, and those wishing to spend more than on previous occasions will be asked to supply a bank reference. We also request that you complete the section below with your bank details:

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**PLEASE PRINT CLEARLY**

Lot number (in numerical order)	Maximum Bid £ (excluding buyer's premium)	Lot number (in numerical order)	Maximum Bid £ (excluding buyer's premium)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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09/12/16

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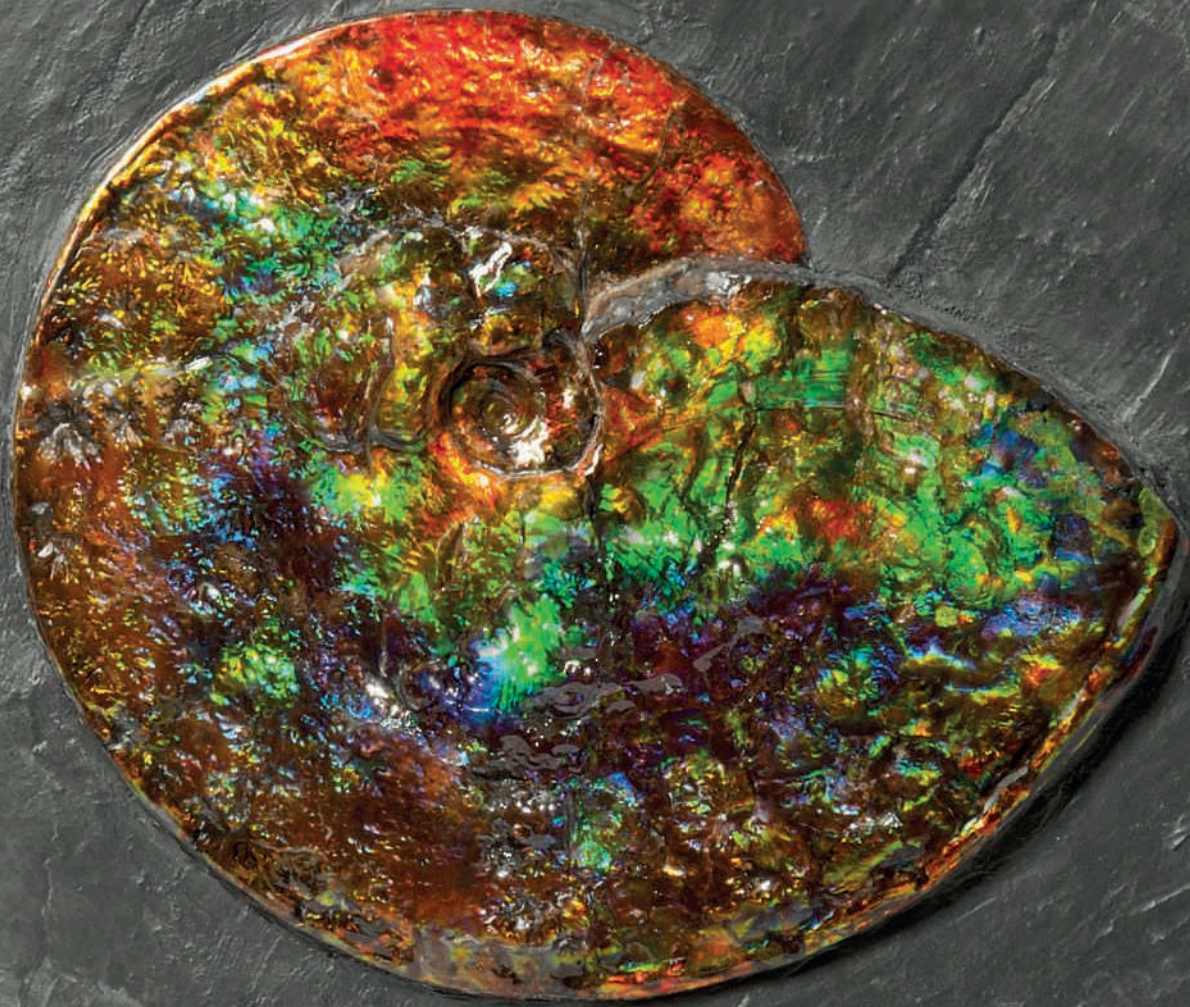
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