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The law of ownership and control of meteorites

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Abstract–Increased commerce in meteorites raises questions about their ownership and control. This article reviews the law in several countries, international law, and considers the legal and ethical issues facing curators wanting to bring finds to the research community and not divert them to a black market. A survey was made of scientists involved in meteorite acquisition in over 20 countries to determine how well various systems work.

Meteorite ownership law is non-uniform. English Common Law, from which the law in former British colonies including the United States evolved, provides that meteorites are the landowner's property; buried meteorites might be part of the mineral rights. Find reporting is not mandatory. Most Western European countries, and former colonies, have civil codes providing that meteorites are owned by the landowner. In many countries legislation about archaeological treasures modifies earlier meteorite law. The UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property provides for tracking and retrieving from reciprocating states, cultural property including meteorites.

The Antarctic Treaty does not deal with samples exported. In July 2001 the Antarctic Treaty Consultative parties adopted a resolution to discourage non-scientific collection.

Curators should exercise caution if acquiring specimens of questionable legal ownership.

Governments should be urged to enact laws to (1) discourage non-scientific collection in pristine areas; (2) encourage collection in populated areas by reasonable incentives to finders, with mandatory find reporting; (3) create efficient export permitting systems allowing exchange of research samples; and (4) retrieve illegally exported meteorites under the UNESCO Cultural Property Convention.

INTRODUCTION

Increased public awareness and commerce in meteorites raises questions about their ownership and control. Meteorites with scientific importance but unverifiable legal histories are being offered to museums, raising ethical questions for curators. This article reviews the law in several countries, and relevant international conventions; and considers how laws and administrative practices could be improved in order to bring finds to the scientific community quickly and not allow them to be diverted to a black market. A survey was made of scientists involved in meteorite acquisition in over 20 countries, to determine how well various systems work. In many instances the legislation, if any, and practical experiences, were provided in English by the survey respondents, and in other cases informal translations were made through the author's law office.

Ownership of a new find is determined by the law of the place of the find. Legal regimes range from a free market to deemed state ownership with no compensation to finders. A free market gives an incentive to searchers but allows ownership by private collectors who do not curate specimens scientifically. Confiscatory laws tempt searchers to conceal or sell finds illegally; or, misrepresent strewn field data to conceal sources, or to make it appear that a meteorite has been legally obtained.

Scientists responding to the survey expressed diverging views on an ideal system, which unavoidably included personal views on human nature and anecdotal experiences. Survey responses were obtained from many countries, but despite the author's efforts, no direct information was obtained from or about the laws of North African countries, the Russian Federation or the People's Republic of China, and many third world nations, in time for inclusion in this article. However, sufficient response was obtained to allow some general conclusions to be drawn.

Meteorite ownership law varies, of course, with time and between countries. Indeed, the various states in a federally

organized country may have differing laws. The author has attempted to accurately state the laws reported in this article, but this article should not be considered to be legal advice. A lawyer qualified in the find jurisdiction should be consulted for an ownership opinion on a particular case.

HISTORICAL BACKGROUND

English Common Law, from which the law in former British colonies including the United States evolved, provides that meteorites are the landowner's property; buried meteorites might be part of the mineral rights. Find reporting is not mandatory.

Most Western European countries, and their former colonies, have civil codes laying down principles of law under which meteorites are owned by the landowner as long as they have "acceded" to the land. A meteorite resting on the surface is, arguably, owned by the finder taking possession if it, subject to trespass issues.

Other traditional legal systems with unique rules exist, such as the Islamic Shari'a, which applies in most North African countries, and under which no law may contradict the principles set out in the Koran.

In many countries the longstanding general law that would otherwise apply to meteorite ownership has been modified by legislation aimed at controlling the movement of archaeological treasures. Much of this legislation is based on the principles of the UNESCO Cultural Property Convention (see below).

SELECTED EXAMPLES

The following summaries are intended to demonstrate the variety of legal regimes in effect.

Argentina

Most Argentinean provinces apply the civil code principles to ownership of finds, which in most circumstances vest in the landowner. The Chaco Province constitution may be the only one in the world to declare meteorites provincial property and impose a duty to protect them (Chaco Province Constitution, section 10), a provision inspired by the Campo del Cielo meteorite found there. Chaco Province law 3563 (proclaimed 1990 March 10), directs the provincial police to "organize the custody and conservation rules" for preserving finds on provincial territory.

Australia

Of the six Australian states and two territories, four (Western Australia, South Australia, Tasmania and the Northern Territory) have legislation that vests ownership in trustees of the state museums, prohibits find movement except delivery to museums, allows refunds of finder expenses, and allows payment of a reward for information leading to a new find recovery. The meteorite-rich Nullarbor Plain is in Western and South Australia. The four state laws are *Museum Act 1969,* (amended 1973) *Western Australian Consolidated Acts; South Australian Museum Act 1976, South Australian Consolidated Acts; Meteorites Act 1973, Tasmanian Consolidated Legislation;* and *Meteorites Act 1988, Northern Territory Consolidated Acts.*

The Western Australian *Museum Act* contains a transitional provision in section 45(5). If a person lawfully possessed a meteorite before 1969 when the private ownership prohibition came into effect, the person may offer it for sale, but the museum trustees have the right of first refusal. It must be offered to the trustees at a reasonable price, taking into account only willing purchasers in the state and not offers from elsewhere. If the trustees do not accept the offer within 14 days, the meteorite may be removed from the state.

The federal *Protection of Movable Cultural Heritage Act* (1986) prohibits export of Australian finds without an export permit from the federal Cultural Heritage Committee. It is legislation enabling the Australian courts and governments to carry out the duties under the Cultural Property Convention (see below). Pursuant to the regulations under that act, those meteorites deemed already well represented in Australian collections, samples of which come into private ownership, may be issued a "Letter of Clearance" thus circumventing the lengthy permit application process. Curators of State Museum collections are empowered to issue "Letters of Clearance" as they see fit, and archive these to the Cultural Heritage Committee in Canberra. The museums themselves for the purpose of distributing loans for scientific research operate under a "General Permit" issued by the Federal Minister. However, if samples are to be permanently exported for exchange, then a permit to do so would have to be sought from the Cultural Heritage Committee.

Canada

English Common Law principles apply in all provinces except Quebec, which has a civil code and the position is generally similar to France (below). In most cases finds in Canada are the property of the landowner. In a British Columbia Court of Appeal decision holding that timber growing on mortgaged land became part of that land, Chief Justice Hunter rhetorically stated that a meteorite falling on the land would become part of it (*MacCrimmon et al. v. Smith et al.,* 12 B.C.R. 377, at 384 (1906)). A meteorite might be a "stakeable claim" under mining legislation, which varies between provinces but it does not appear that the point has come up in practice. They can be sold; find reporting is not mandatory; and the government only intervenes if a Canadian find is to be exported.

Under the *Cultural Property Export and Import Act* (S.C. 1985, c.52), which came into force 1977 September 6, a

Canadian find cannot be exported without a permit from the Canada Customs and Revenue Agency (CCRA), and application for a permit must be made by a Canadian resident. Temporary Export permits are granted forthwith; loan periods may not exceed 5 years and the initial period is 90 days. In practice, some destructive testing may be allowed, as determined on a case by case basis. In general, if any destructive testing is to occur outside Canada a Permanent Export permit is required. A permit officer from the CCRA would refer the matter to an "expert examiner" under Section 11 of the act. The expert examiner determines whether the find is of "outstanding significance" for science or of "national importance", and if so, recommends denial of the Permanent Export permit. Denial of a permit may be appealed to the Canadian Cultural Property Export Review Board, which may either issue the permit, or impose a 2 to 6 month delay of permanent export. During this delay a Canadian university, government institution, museum or other cultural institution may attempt to purchase it for a "fair" price (as determined by the Board). If purchase to retain the meteorite(s) through this control process does not occur, permanent export is allowed. Canadian Federal Government statistics indicate that during the 5 years preceding 2001 May 23, there had been seven applications for Permanent Export permits (of which two had been refused and were then under the 6 months delay period created by that board) and fifteen applications for temporary export had been issued. More than one specimen may be the subject of one permit.

Czech Republic

There is no specific legislation or decided case, but under the post-socialist system museums operate on the basis that land ownership includes owning finds on the land, and payment is made by the museum. Even during the socialist law period, finders were paid by museums for delivering meteorites.

Denmark

Under s.36b of the *Museum Law Act* (1989) finds are "geological objects of unique scientific value" and must be delivered to a state museum. Under s.36b(3) the museum pays the finder a fee based on the market value adjusted for the speed and care taken by the finder in carrying out this obligation. Greenland, as part of Denmark, has a similar rule, so Danish meteorite law will become more significant if meteorite stranding areas are found there (Harvey *et al.*, 2001).

France

The only judgments about meteorite ownership outside of North America appear to be two nineteenth century French cases decided under the *Civil Code*. Those decisions, though helpful, should be read in the light of a distinction between the common law system (where previous decisions are binding or highly persuasive) and the civil law system, where they are not binding, and each case turns on a fresh reading of the *Civil Code*.

In *Vollard v. Douillard* (Folio 194 C. S., Tribunal civil dé Bourbon-Vendee, 1842 August 31 (M. Savin, Pr.)) three judges decided between the claims of the finder of a meteorite resting on the surface, and the absentee landowner who had not fenced, posted "no trespassing" signs, or shown any other opposition to entry. It was held that the finder was within his rights to be on the property, and became the owner of the find. This unreported case is of doubtful authority because of changes to the *Civil Code*, and a subsequent decision.

In *Toche c. Descordes et Lejean* (DT 98, 2, 507, Tribunal civil d'Aix, 1898 January 17 (M. Schoell, Pr.)) there was a three-way dispute between the discoverer of a meteorite embedded 50 cm in the soil of a field; the tenant farmer working the field who took possession of it; and the landowner. It was held that under Articles 546 and 551 of the *Civil Code*, the meteorite had "incorporated itself into the soil at the point where it fell, and became acceded thereto..." and hence was the property of the landowner.

The editor of the French law report of the *Toche* case pointed out the "difficult question" of whether a meteorite that was merely resting on the surface of the soil would be *res nullius* (a thing with no owner) in which ownership would rest in the discoverer by way of occupation. That question remains undecided. However, it appears that in situations likely to arise in modern times, the landowner would own the find (Godbout, 2000).

India

The Resolution of the Government of India, Revenue & Agriculture Department, No. 45G-22-13, dated 1885 April 28, at Simla, provides that "all falls of aerolites together with the papers relating to them should in the first instance be forwarded to the Government Geological Museum, Calcutta". By circular letters (No. 14870-14883-119 dated 1914 December 19, and No. M-1184 dated 1925 June 9) to all local governments the national government has required compliance with the resolution. The Museum is under the control of the Director of the Geological Survey of India. No compensation is paid to finders, and possession of a new find is usually taken by a representative of the Geological Survey of India, or the local police.

Japan

The finder is the owner, under article 239 of the *Minpou* (Japanese civil code), which provides that a found object with no previous owner is the property of the first person that asserts ownership.

New Zealand

Under the *Antiquities Act of New Zealand* (1975, No. 41, consolidated 1990), Section 2(f), a meteorite is classified as an antiquity, and, therefore, may not be exported without a permit from the government (Section 5). Section 11 provides that the finder of a meteorite is to notify certain government officials. Sales of meteorites within New Zealand are confined to registered collectors or licenced second-hand dealers.

Switzerland

Swiss Civil Law (Schweizerisches Zivilgesetzbuch (Auflage 1986)) Article 724 provides that finds are owned by the canton (state), but the finder is paid compensation not to be higher than the object's value.

United Kingdom

Basic principles of the English Common Law leave little doubt that a meteorite would be owned by the owner of the land or building in which it is found, although no United Kingdom decision has considered the precise question. In the leading case of *South Staffordshire Water Co. v. Sharman* (1896) 2 Q.B. 44; 65 L.J.Q.B. 460, concerning gold rings found by an employee cleaning out a pool owned by his employer, Lord Russell said at p. 462,

> "The general principle is that where anyone is in possession of house or land which he occupies, and over which he manifests an intention of exercising control and preventing unauthorized interference, and something is found in that house or on that land by a stranger or a servant, the presumption is that the possession of the article found is in the owner of the *locus in quo*."

If a meteorite was legally characterized as a "treasure trove", then under the common law it would be the property of the crown, on the theory that the unknown original owner who hid the treasure long ago forfeited the property to the crown on death. Because a new meteorite find was never intentionally hidden by anyone, it is unlikely that this characterization would apply. The civil codes of many countries provide that treasure troves are owned half by the finder and half by the landowner (for example *Quebec Civil Code*, Article 938), but it is doubtful that a find would be in this category (Godbout, 2000).

United States of America

The United States courts have held that a find is owned by the landowner. A find on federal government property is owned by the federal government but may be acquired by the Smithsonian Institution, a federal agency, under the *Antiquities Act,* 16 U.S.C. §432 (see *People of the State of California et al. v. Mead,* 618 F. 2d 618 (1980)).

The leading case is *Goddard v. Winchell*, (86 Iowa, 71; 52 N.W. 1124; 17 L.R.A. 788; 41 Am. St. Rep. 481), a decision of the Iowa Supreme Court in 1892, involving a fragment of the Forest City meteorite which fell on a field owned by Goddard. The fall was dug out of the 3 foot deep hole by a person who sold it to Winchell. The Court held that the meteorite became a part of the land where it arrived through natural causes, and was the property of the landowner.

Goddard v. Winchell was followed in 1905 by the Oregon Supreme Court in *Oregon Iron Company v. Hughes* (81 Pac.R. 572), involving the large Willamette meteorite, which Hughes found on the surface of land owned by the Oregon Iron Company and moved to his own land nearby. It was held to be part of the soil, belonging to the owner of the soil, Oregon Iron Company. There was evidence that local Indians had once used the meteorite in ceremonies and Hughes argued that the meteorite was a lost object, abandoned by them, and thus the property of the finder. The Court rejected the argument on the basis that the Indians had never "appropriated" the meteorite, and so never abandoned it.

GENERAL COMMENTS ON FIND OWNERSHIP

The above illustrations indicate the wide range of rules about ownership of meteorites between countries. Each legal system is unique, but in general terms in most places the landowner of the place of find owns the meteorite. In some jurisdictions ownership is shared, or entirely, with the meteorite finder. Recent legislation in many countries has moved toward compulsory delivery to the state, with compensation paid to the finder. From the scientist's point of view, exactly who initially owns the find is less important than having certainty about the matter, so that the find-acquiring scientific institution knows who to deal with, and ownership disputes are avoided.

INTERNATIONAL TRAFFIC IN METEORITES

Several legal arrangements now allow trading of meteorite samples under various degrees of government control. In addition to the ordinary customs and excise rules, a UNESCO convention has increased government involvement in meteorites.

Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

This UNESCO convention (the "Cultural Property Convention"), adopted in 1970, and ratified or accepted by 91 countries as of 1999 December 1, provides for protecting, tracking and retrieving from reciprocating states "cultural property" which is broadly defined in Article 1 to include

"rare...specimens of...minerals..." which would include meteorites. The impetus behind the Cultural Property Convention is archaeological, and it is fortunate for meteoriticists that its drafters had the foresight to include scientifically important property under the Convention. The archaeologists have already "invented the wheel"—an existing set of rules and administrative machinery endorsed by UNESCO, with enabling legislation already existing in many places.

Ratifying states undertake to pass laws to give legal effect to the principles of the Cultural Property Convention including creating a permitting agency like Canada's described above, but many states have not done so. Therefore, ratification of the Cultural Property Convention does not mean that meteorites in a ratifying state can be effectively controlled under the principles of that convention. The United States has ratified the Cultural Property Convention but has not passed legislation enabling the United States courts to act. The United Kingdom has not ratified.

Article 7 of the Cultural Property Convention provides a mechanism for retrieving through diplomatic channels, cultural property that was part of an inventoried institutional collection of the country of origin when it was wrongfully taken to an institution in another country that is party to the Convention. The cost of retrieval is borne by the requesting state.

Article 7 does not apply in the case of a meteorite in private hands that is wrongly exported. In such cases a lawsuit against the person possessing the meteorite may be required, usually in that person's country of residence. The lawsuit would be brought by and paid for by the institution or government claiming rightful possession. Many common law systems have a cause of action known as "detinue" under which a court may order the return of goods to the rightful owner, but the availability of, and evidentiary and procedural requirements for, this type of order varies between countries. Article 13 of the Cultural Property Convention requires states party to the Convention "to admit actions for recovery of lost or stolen items of cultural property brought by or on behalf of the rightful owners", which is very general wording obliging each state to empower its courts to make such orders.

Convention on Combating Bribery of Public Officials in International Business Transactions

This Convention was signed by all 29 members of the Organization of Economic Co-operation and Development (OECD), and is a glimmer of hope for solving the problem of bureaucratic involvement in international meteorite trade that violates local national laws, or the principles of the Cultural Property Convention. Parties to the OECD Convention undertake to make it a criminal offence in their own country for a person to offer a bribe or other advantage to a foreign public official "in order that the official act or refrain from acting in relation to the performance of official duties, in order to obtain or retain business or other improper advantage in the conduct of international business". The OECD Convention is aimed at large-scale transactions and the official commentary to the convention makes an exclusion for small "facilitation" payments made to induce public officials to issue licenses or permits. For example, this exclusion of "facilitation" payments is found in Canada's implementing legislation, the *Corruption of Foreign Public Officials Act* (S.C. 1998, c.34). Systematic violation of the law of the country of the find would probably fall within the ambit of this convention, but not the improper issuance of a single meteorite export permit. The OECD Convention is a commendable effort to deal with a difficult problem, but to help solve current meteorite issues, it needs to be extended in scope.

ANTARCTIC METEORITES

The Antarctic Treaty (signed at Washington, on 1959 December 1) puts national territorial claims into abeyance indefinitely and encourages co-operative scientific exploration. Article III (1)(c) states, "scientific observations and results from Antarctica shall be exchanged and made freely available". The Treaty does not deal specifically with samples exported.

Until recently, Antarctic meteorites were recovered only by government-sponsored expeditions, and legal ownership has not been a problem. Specimens are collected, curated and catalogued by internationally recognized scientific institutions and samples are made available without charge to other scientific institutions submitting research proposals. The meteorites are held by NASA and the Smithsonian Institution in the United States, the National Institute of Polar Research in Japan, and by EUROMET.

The Antarctic Treaty is silent about the law applicable to individuals (except the very few people who have been formally designated by a contracting party as an observer under the treaty) and the freeze of territorial claims complicates enforcement of any particular country's law. Most national laws relate find ownership to land ownership, the assertion of which right would be contrary to the treaty. Sample collection by unauthorized individuals would seem to fall into this legal vacuum.

Furthermore, non-government sponsored collecting expeditions may cause difficulties under the treaty, because Article VIII(5)(a) requires a contracting party to give notice to the other contracting parties of all expeditions organized in or proceeding from its territory. An unannounced private expedition might put its country of origin in breach of this treaty obligation.

A current question is whether the recovery of Antarctic meteorites is forbidden by Article 7 of the *Protocol for Environmental Protection of Antarctica*, adopted in 1991, which prohibits any activity relating to mineral resources other than scientific research. When does scientific research become prospecting for mines? Could a meteorite be legitimately sold after a cursory scientific examination? In July 2001 at a meeting

of the Antarctic Treaty Consultative Parties in Petersburg, Russia, Resolution 3(2002) was passed reading:

> "The Representatives,
>
> *Concerned* at the potential loss to scientific research because of unrestricted collection of meteorites in Antarctica:
>
> *Urge* Parties to the Environmental Protocol to take such legal or administrative steps as are necessary to preserve Antarctic meteorites so that they are collected and curated according to accepted scientific standards, and are made available for scientific purposes (Antarctic Treaty Consultative Parties, 2002)."

This resolution should raise the profile of this issue in national legislative agendas.

PRACTICAL CONSIDERATIONS

The author's correspondence survey included some Meteoritical Society members, many of whom were museum curators. Other scientists with experience in meteorite collection were also generous in providing information about the realities of acquiring meteorites, often qualified as being personal views and not the official position of their country. The author also informally interviewed several commercial meteorite dealers and private collectors. Many strongly held and incompatible views were expressed, including the following:

(1) Pristine collecting areas, such as Antarctica and some deserts, contain a representative sample of materials falling from space which is degraded by non-systematic commercial collecting. For discussions of this issue, see Bevan (1993) and the SCAR (2001).

(2) Some scientists call for a ban of all commerce in meteorites; some have lobbied their governments to pass laws to prevent private trade or ownership, but the matter has not been a government priority.

(3) Members of the public who find a meteorite are generally very co-operative with authorities in reporting the find, and willing to share it with scientists.

(4) Many museum curators dealing with individual meteorite finders believe that a significant finder's reward should be paid; several suggested splitting the sample. Some expressed concern that reports of high values may cause finders to avoid government involvement.

(5) Anecdotal reports of export permits issued in some countries, by officials with no evaluation of the scientific merits of the export, or disinterest in the subject, raise questions about the effectiveness of the implementation of the Cultural Property Convention.

(6) Meteorite dealers depend on scientific analysis to authenticate their merchandise; are generally willing to share or trade samples with institutions; and have brought to scientific researchers meteorites that would otherwise never have been recognized or collected.

ETHICAL CONSIDERATIONS

Museum curators face ethical questions when offered meteorites with uncertain legal ownership history. The problem is most often encountered with North African finds, which may have been traded and illegally crossed borders several times before reaching the hands of a dealer who offers them to the institution. Curators acquiring such meteorites risk being accused of encouraging or participating in illegal activities. Institutions refusing to accept such meteorites may find the stature of their collections dropping compared to other institutions. In this situation, the goal of obtaining important meteorites for science conflicts with the goal of discouraging illegal traffic in meteorites.

There is no easy solution to this dilemma. Curators must, obviously, obey the law and should support the objectives of the Cultural Property Convention. As much documentation as possible should be obtained from dealers, ideally including a sworn and satisfactory statement of the sample's ownership history. Complete transparency and full disclosure of documents and acquisitions may be the institution's best shield against wrongful accusations. Ideally, the governments of all potential countries of origin should be informed about the acquisition of the specimen by the institution, and copies of any export permits and other documents should be made available in some easily accessible publication, the existence of which is communicated to the relevant governments. If such notice is given, the acquiring institution would seem to have the moral high ground if accusations are later made. Setting up this system would require a liaison on behalf of the scientific community with authorities in the countries of origin, which in some cases may need to be informed by the scientific community about the importance of scientific curation.

Of course, the ethical obligations referred to above apply equally to private meteorite dealers and collectors. Their role is particularly important because they often have early contact with meteorite finders, who may know nothing about meteorite ownership law.

CONCLUSIONS

Meteorite ownership law varies widely. Generally, survey respondents reported cooperation from finders, to whom some compensation was paid whether required or not; however, there were incidents of important meteorites, or find data, being lost to science. The best system for each country depends on the relationship between each government and its citizens. An uneasy, sometimes mutually beneficial relationship exists between some meteorite dealers and scientists. The author has tried to objectively describe the present issues and state of

the law, and respectfully offers the following personal comments:

(A) Meteorite collection in pristine areas should be discouraged except for collection by scientific institutions.

(B) Governments should be urged to enact workable laws appropriate to their jurisdiction to, (1) with respect to populated areas, encourage collection by providing reasonable incentives to finders, and make all find reporting mandatory, (2) create efficient export permitting systems allowing exchange of research samples, including scientific training of officials, and (3) retrieve illegally exported meteorites under the Cultural Property Convention.

(C) Desired changes to national laws can only be achieved through political steps taken within those countries. The international scientific community should support efforts by scientists in any given country to encourage their governments to pass local laws encouraging responsible collection of meteorites, so they will be available to a qualified national agency and, through it, available to scientists throughout the world.

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