GUIDE FOR AUTHORS SUBMITTING MANUSCRIPTS FOR PUBLICATION IN THE JOURNAL OF THE RUSSELL SOCIETY

The Russell Society encourages the study, recording and conservation of mineralogical sites and material. It publishes a newsletter, which includes short articles, mineral news, and information about activities and fieldtrips; and a journal, which contains original articles.

Beginning an article can be a bewildering process, especially for first-time authors, but most successfully navigate the reefs and shoals to produce accounts which are accurate and accessible. The editor, editorial board and referees are here to help. This article sets out some of the conventions that have developed over the years. Do not be put off by the length of the style guide it is simply intended to help avoid some of the pitfalls on the road to publication.

ARTICLES

Articles in the *Journal of the Russell Society* typically focus on the mineralogy of Britain and Ireland. Contributions from members and non-members are welcome. Suitable subjects include descriptions of unusual or rare species; reviews of sites of mineralogical interest; collection descriptions; biographical notes on the history of mineralogy; and accounts of mineralogical techniques. The Journal does not normally publish articles about sites which lie outside the British Isles.

Recent editions of the Journal provide a useful indication of the sort of articles that are included. Authors are advised to contact the editor with a rough synopsis before beginning an article in earnest. The editor may be aware of other proposed articles in similar subject areas.

Manuscripts should be prepared using Microsoft Word or a similar package. Pages should be single column A4 size with reasonable margins. Paragraphs should be separated by a single blank line, please do not use the paragraph styles that are available in modern word processors they have to be removed, add to the workload for the editor and typesetter, and have the potential to produce errors. Authors are asked, in particular, not to mimic the double-column format of published articles.

Every journal article is refereed by two experienced mineralogists. This is a normal part of the publication process. It helps to reduce errors, which otherwise propagate through the literature. Referees may be ‘critical’, but their comments are intended to be constructive and positive.

Although the content is varied, certain types of article recur. The most common are described in the following text:

Unusual Occurrences

Descriptions of unusual, novel or otherwise unreported minerals or mineral assemblages are an important part of the content. The principal issue in such articles is usually the reliability of identifications. Claims of unusual or rare mineral species must be backed by supporting evidence.

Articles are typically a few pages in length and organised as follows:

1. TITLE: short, specific and self-explanatory; followed by the names and addresses of the author(s);
2. ABSTRACT: a single paragraph summarising the most important findings, typically 100–150 words;
3. INTRODUCTION: sets the scene for the reader; it might include information about the chemistry and naming of the mineral(s) described and if appropriate a review of their occurrence in the British Isles;
4. LOCALITY: a description of the site and its geological context;
5. ANALYSIS: a description of experimental methods including analytical data including how and where the minerals were identified and what methods were used; possibly supported by photographs or SEM images;
6. DISCUSSION: a discussion might include observations and interpretation of data and comparisons with other occurrences;
7. ACKNOWLEDGEMENTS; it is usual to thank anyone who has helped including referees, and those who gave permission to collect;
8. REFERENCES: references are used to support statements made in the text and to provide readers with the opportunity for further research. The use and formatting of references is described following the style guide in this article;
9. TABLES: any tables of data;
10. FIGURES: figures with explanatory captions.

Locality Reviews

Reviews of mineral localities are core content; they are popular with readers and form valuable records of sites. They typically draw on the collections of public institutions and private individuals and paint a complete a picture of a locality. Locality reviews can be extended geographically to encompass the mineralogy of a larger area, such as an orefield, group of mines, geological unit or even a complete county. More extended reviews do not necessarily deal exhaustively with all known occurrences of every mineral. A topographic review might focus, for example, on the occurrences of a particular mineral, or group of minerals, across a wide area.

Manuscripts may be up to 50,000 words, although they are usually much shorter. They are typically organised as follows:

1. TITLE: short, specific and self-explanatory; followed by the names and addresses of the author(s);
2. ABSTRACT: summarising the most important findings typically 100–250 words;
3. INTRODUCTION: sets the scene for the reader;
4. HISTORY: provides a historical context for the locality;
5. GEOLOGY: describes the geology and sets it in a regional context;
6. MINERALS: usually an introduction stating methods of identification followed by an illustrated alphabetic list of the mineral species;
7. DISCUSSION: includes observations and any interpretation of data;
8. CONCLUSION:

9. ACKNOWLEDGEMENTS: it is usual to thank anyone who has helped including referees, landowners and bodies such as Natural England who may have given permission to collect;
10. REFERENCES: references are used to support statements made in the text and to provide readers with the opportunity for further research. The use and formatting of references is described in the following text;
11. TABLES: any tables of data;
12. FIGURES: figures with explanatory captions.

Collection Descriptions and Biographies

A more personal subject area with wide scope, commonly based on private and public collections, past and present. Some articles may be set in historical context, based perhaps on material in an archive or public museum. Others may be contemporary and provide records of current mineralogists or mineralogical practice. Collection descriptions typically include a mineralogically focused biography and illustrations of the collector's catalogue, labels, and as many important specimens as possible. They might be organised as follows:

1. TITLE: short, specific and self-explanatory; followed by the names and addresses of the author(s);
2. ABSTRACT: a single paragraph summarising the important facts about the collector or collection;
3. INTRODUCTION: sets the scene for the reader;
4. MAIN TEXT: less prescriptive than the mineral descriptions, but typically including biographical information about the person or the history of an institution placing them in a wider context and including appropriate illustrations;
5. ACKNOWLEDGEMENTS; it is usual to thank anyone who has helped including referees and the people who have supplied information or assisted with enquiries;
6. REFERENCES: references are used to support statements made in the text and to provide readers with the opportunity for further research; Only those references cited in the text are listed; citations from archive material are commonly included in historical articles;
7. TABLES: any tables of data;
8. FIGURES: figures with full explanatory captions.

Techniques

In common with other science-based subjects various techniques lie within the compass of amateur mineralogy. Collectors have led the way in digital photography which enhances resolution and depth of field in images. Curatorial techniques, ranging from chemical treatments to prevent decay, to methods of labelling and suitable databases for collection management are of wide interest. There is no general template for an article. It should include a title and an abstract as well as acknowledgements, references, and appropriate tables and figures. Articles need not be ground-breaking, but will typically include of review of the scientific basis of the technique and examples of how it might be useful in a mineralogical context.

STYLE GUIDE

Writing for any journal has its idiosyncrasies. Articles should be written in a free-flowing style, but authors are asked to adhere to appropriate scientific and stylistic conventions. Material that is vexatious, rude or offensive will not be published. The main body of the narrative should lead the reader through the material in a logical manner. The *Journal of the Russell Society* uses British English (taken from a recent edition of the *Oxford English Dictionary*). Authors should not worry unduly about grammatical minutiae. Articles are generally in the third person. Some conventions are adopted for sound scientific reasons, following guidance from the International Mineralogical Association or similar bodies. In other cases they are arbitrary: 'for consistency, that's the way it's done'. Lucid and simple English is encouraged, but scientific terms should be used.

Abbreviations should be clear and consistent. Well known abbreviations such as i.e. and e.g. can be used without definition. In British English, neither of these should be italicised or followed by a comma. Other abbreviations should be defined the first time they are used in an article: e.g. National Coal Board (NCB). If used in tables, 'n.d.' must be defined as 'not determined' or 'not detected'. The same abbreviation used in a reference means 'not dated'.

In general an abbreviation (where the end letter is missing) has a full stop, whereas a contraction (where the end letter is present) does not, for example: Prof. and Dr; ed. and eds; Fig. and Figs; similarly, St in St Agnes, Cornwall, and Ltd for Limited are contractions and do not require a full stop. An exception to the rule is No. a contraction of the Latin *numero*, which may be confused with the word 'no' and is therefore given a full stop, as is the plural Nos.

The abbreviation *et al*. is used to cite references if three or more authors contributed. It is derived from the Latin *et alia* which means 'and others'. In common with other non-English words it is italicised, and *al*., as an abbreviation, requires a full stop.

Technical abbreviations such as XRD (X-ray diffractometry or X-ray diffraction) and WDS (wavelength-dispersive spectrometry) generally omit full stops. Technical abbreviations which may be used without definition include: XRD = X-ray diffractometry or X-ray diffraction; PXRD = powder X-ray diffraction; XRF = X-ray fluorescence; EPMA = electron-probe microanalysis; EDS = energy-dispersive X-ray spectrometry; WDS = wavelength-dispersive X-ray spectrometry; SEM = scanning electron microscope or scanning electron microscopy; IR = infrared; UV = ultraviolet; *REE* rare-earth elements.

Other abbreviations and contractions in common use include: p. for page; pp. for pages; c. for circa; vs for versus; cf. for confer (compare); and in quotations [*sic*] for as it is written. In reference to a man of the cloth the contraction Revd is preferred to the abbreviation "Rev.".

Abstracts are required for all articles. The abstract describes the topic of research and summarises the major findings, in contrast, the introduction, which starts the article proper, sets the scene for the reader. Word counts of 100 to 250 are customary for

abstracts, but longer summaries are acceptable for complex contributions. The abstract stands entirely on its own, and must not include any references.

Addresses, either private or institutional, should be included following author names after article titles. The address should be the correct postal address which is available online at https://www.royalmail.com/find-a-postcode.

Accuracy and precision need to be considered in articles which report numerical data. A set of data points from repeated measurements is *precise* if the values are close to each other, and *accurate* if their average is close to the *true value* of the quantity being measured. Precision is related to the random errors in measurements, accuracy includes systematic errors.

Modern 'black-box' analytical instruments commonly report data at inappropriate levels of numerical accuracy. Authors should consider the probable systematic and random errors in measurements and report numerical values to an appropriate number of significant figures. If figures are rounded, the convention is that if the last digit is five or greater, the figure is rounded upward.

Americanisations should be avoided. Use acknowledgements not acknowledgments; advertised not advertized; analyse not analyze; catalogue not catalog; colour not color; fibre not fiber, geological not geologic; grey not gray; lustre not luster; Palaeozoic not Paleozoic (and its variants); selvedge not selvage; travelled not traveled. Crystallise, mineralise; and crystallisation and mineralisation, are the appropriate English spellings; 'ize' and 'iza' are avoided.

Other American constructions, such as the use of likely as a mid-position adverb, as in 'the mineral will likely be ...', should be changed to the appropriate English form, in this case: 'the mineral is probably ...'. The word 'program' in British English refers only to computer programs, such as Microsoft Word; programme is the appropriate form for a schedule of events.

And/or as a grammatical device is to be avoided if possible. It is clumsy and can be ambiguous.

Apostrophes should be used to indicate missing letters, or possession. They should not be used with possessive pronouns, namely: whose, ours, yours, his, hers, its or theirs. They should also be avoided in nouns that are plural but not possessive, such as CDs or 1980s.

Book titles should be in italic font and title case if they are used in the main body of the text. For example: 'In his foreword to the facsimile reprint of the *Manual of the Mineralogy of Great Britain and Ireland* Peter Embrey notes ...'. There are a few exceptions, such as The Bible, which by convention, are not italicised.

Brackets have a number of functions in mineralogical articles. Their meaning in crystallography is described separately. Round brackets are generally used in normal sentence construction, to enclose supplementary information, which if removed would leave the sentence unchanged. Round brackets are also used for references. Square brackets are used in quotations to add supplementary information. Square brackets are

also used in the *Journal of the Russell Society* (*JRS*) to enclose grid references e.g. [NY 123 456]. This last rule is an example of a convention that has evolved without obvious reason.

Capitalisation should extend to the full names of localities: use Carrock Mine, Coldstones Quarry and so on. The same applies to geological units such as the Sidmouth Mudstone Formation. If several locations are described plurals are not capitalised: use Sandbed and Driggith mines, with no capitalisation of the word mines. Named collections are fully capitalised, use Frank Ince Collection rather than Frank Ince collection.

Chemical conventions generally follow guidance from the IMA and the International Union of Pure and Applied Chemistry (IUPAC), but note that this journal uses sulphur, sulphides, sulphates and sulphosalts, and the spellings caesium and aluminium.

Chemical formulae should be taken from the latest version of the official IMA-CNMNC list of mineral names, available at: http://ima-cnmnc.nrm.se/imalist.htm. If other formulae are used, such as empirical formulae, structural formulae, or general formulae, they should be explained. Central dots (available in the special characters menu in MS Word) are used in formulae to distinguish water of crystallisation, but the modern trend to represent structural water as $(H_2O)_n$ within a formula is encouraged. The recent IMA decision to use brackets for all simple anion groups [as in $Pb(SO_4)$ rather than $PbSO_4$ for anglesite] is rather clumsy and the simpler of the two is acceptable. The open-square symbol, □, is used to represent a structural vacancy.

Chemical Equations should use standard symbols recommended by IUPAC. For example:

$$Zn_5(CO_3)_2(OH)_6 + 3CO_2 \rightleftharpoons 5ZnCO_3 + 3H_2O.$$

Authors should ensure that equations balance. Minus signs, to represent the charges on anions, for example, are set using a superscripted en-rule (available in the special characters menu) not a hyphen: e.g. SO_4^{2-}.

Commas are occasionally misused. There are few undisputed grammatical rules relating to comma use; it is often a matter of style and ‘flow’. The comma splice is to be avoided. This consists of the use of a comma where stronger punctuation is needed, usually because the statement has two complete grammatical sentences. For example:

> “The mine is believed to have been worked by the Elizabethans, the earliest records date from 1750”.

could be better expressed. The two clauses could be separated by a full stop, although this might be carrying the ‘short, clear sentences’ guideline too far. They could be joined by ‘although’ or connected by a semi-colon.

As with hyphens, commas are a courtesy to the reader. A phrase which describes or qualifies the subject of the sentence, but which is not essential to its meaning, should always be placed within paired commas to make it easier to read:

> "A quartz vein, apparently the continuation of the Silver Gill Lode, trends northeast–southwest across the northern slope of High Pike and is here known as the Low Pike Vein".

Note that it would not be *wrong* to place another comma after 'High Pike', but it would be unnecessary.

Compound words follow guidance in the *Oxford English Dictionary*. Use bicoloured, groundwaters, longwave and shortwave ultraviolet, northeast, orebody, timescales and note that cuboctahedron is preferred to cubo-octahedron. Bow-tie, cross-cut and cross-cutting, and post-dates and post-dating are hyphenated in JRS.

Compass points should be written northwest, southeast and so on, without hyphenation, if they are doubly conjugate; they can be abbreviated NNW, SSE and so on if triply conjugate. More precise directions should be written: 'striking 060°' or similar.

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Crystallography uses the following **c**onventions:

1. Coordinates in square brackets such as [100] denote a direction vector (in real space).
2. Coordinates in angle brackets such as <100> denote a family of directions which are related by symmetry operations. For example, in the cubic crystal system <100> refers to [100], [010], [001] and the opposite of any of those directions.
3. Miller indices in round brackets such as (100) denote a particular plane in a crystal structure. Negative intercepts with axes require a bar over the appropriate number, but should be written with a minus sign and highlighted in text (e.g. bar one should be written –1).
4. Miller indices in curly brackets {braces} such as {100} denote a crystallographically equivalent family of planes or crystal faces; {111} for example defines the octahedral crystal form in minerals with appropriate symmetry.

Form letters are usually given in italic font. Nineteenth-century bases in crystallography defined using parametral planes are commonly at variance with modern unit cells. Modern unit cells should be used for Miller indices.

Dates should be written in the following format: 1 November 2018. Do not use 1st, 2nd or 3rd or any variation thereof unless in a direct quotation. Date ranges should be enclosed in brackets and separated by an en-rule (1878–1964); note that no spaces are included between two numbers, but a single space either side of the en-rule is used in (30 November 1878 – 24 February 1964). In a historical context the use of BCE is recommended.

Deceased persons are described as ‘the late’ (an expression that is another way to say ‘lately deceased’) for a period of a decade or so. Thereafter they are described using their names and dates at the first reference.

Data is a Latin plural. Technically the singular is datum. As language has evolved in recent years, the constructions such as ‘the data are’ or ‘the data show’ have begun to appear archaic. If authors decide to use data as a singular term, as long as they do so consistently, it will remain as such in the text.

Degree symbol The degree symbol (°) is a typographical symbol that is used, among other things, to represent degrees of arc (e.g. in geographic coordinate systems) and degrees of temperature. The symbol consists of a small raised circle, historically a zero glyph. In MS Word Alt + 0176 (on the numeric keypad).

Diacritical marks should be used in mineral names and locality names. They should also be used for author names and in units such as Å. Most diacritical marks are easy to insert using modern word processors (in the special characters menu). The IMA maintains an up-to-date list of diacritical marks in mineral nomenclature.

Double spaces should **not** be used to separate sentences.

Equations should follow the standard mathematical convention, with variables in italic and constants and functions in Roman. They should be punctuated as part of the article, but set on separate lines:

$$\int_0^{2\pi} dr = \int_0^{2\pi} \sqrt{1+\cos^2(x)}dx.$$

Short, simple expressions and equations may be set on a line with the text. In these cases fractions should normally be written with the solidus (/) and all necessary brackets must be included. A common error is to write Fe/Fe+Mg for Fe/(Fe+Mg). Multiplication signs are not generally required. Minus signs are set using an en-rule (which is available in the special characters menu of word processors: Ctrl + minus sign on the numeric keypad).

In describing a graph or other plot of one variable versus another it is usual to write in the order *y* versus *x*. It some cases it may be useful to think of *y* as the dependent variable as a function of *x* the independent variable, but there are many instances of chemical plots which should not be thought of in this way.

Figures are cited in text either as (Fig. 1) capitalised, in parentheses and with a full stop, or Figure 1 if not enclosed in parentheses. If two or more figures are cited use (Figs 1–3). Every figure should be cited at least once in the main body of the article. If a figure is cited several times the principal citation should be (Fig. 1) and the remainder should include the word see as in (see Fig. 1).

Foreign language words are generally printed in italic font, unless they have become sufficiently anglicised to be well understood. Some anglicised expressions retain their diacritical marks, e.g. ‘the issues of funding created by the recent austerity crisis

might generate a sense of déjà vu [established in English but retaining its accents]: *plus ça change, plus c'est la même chose*' [French, in italics].

Focused is one of a number of words which may be spelled with either single or double 's', the most common spelling is with a single 's', and that is recommended.

Fossil and other biological species names should be given in italic font with genus capitalised and species in lower case: *Genus species*. Names should follow the international codes for zoological and botanical nomenclature.

Fluorescence is widely understood among mineral collectors and embedded in the literature, but modern scientific accounts prefer the term luminescence for inorganic material and minerals (Ince, 2018). Either can be used in JRS. The difference between persistent luminescence (which applies to inorganic crystals) and phosphorescence (which applies to organic molecules) is outlined by Ince (2018) and the former is generally preferable in mineralogy.

Geological names for rock units are taken from the most modern version of the BGS lexicon (available online) e.g. Sherwood Sandstone Formation. Older names such as Bunter, Keuper and Magnesian Limestone should be avoided unless they are used in a historical context. Chronostratigraphic terms (e.g. Permian) should follow the International Convention on Stratigraphy unless there are good reasons for not doing so. British lithostratigraphic terms should follow the appropriate modern nomenclature which may be found in the BGS lexicon. Fossils forming part of a lithostratigraphic name should be capitalised but not italicised (e.g. Plenus Marls, Aegiranum Marine Band).

Grid references should be given for localities described in the text and enclosed in square brackets. Grid references should include letters for the appropriate 100 km grid square. The first set of numerals record the easting and the second set the northing. Grid references are easy to check with modern online mapping tools. Authors are reminded that it is their responsibility to get them right. An eight-figure grid reference with 10 m precision might be written [ST 4015 7185] and is appropriate to identify a small feature; a six-figure grid reference with 100 m precision may be better for a larger feature: [ST 402 719].

Errors in grid references are common. Data obtained during fieldwork using GPS systems may have much larger errors than manufacturers suggest, depending on the conditions on the day in question. Authors are encouraged to check that the grid references in articles are correct using an online mapping tool.

Headings are applied at three levels in the *JRS*. The first level applies to major divisions of the article such as the history, geology, minerals, discussion and references. First-level headings are set in bold capitals. Second-level headings are used to subdivide major sections; they are set in bold and in normal font. Third-level headings are not often necessary, they are set in normal font, except for mineral names where the following convention is used:

1. If an identification is reliable, the name is capitalised.
2. If there is some uncertainty the name is in lower case.

3. If the identification is erroneous or falsified (which may be the case in a review of previous claims), or the mineral is not part of the natural assemblage, the title is in lower case and italicised.

Authors should note that the headings, even at third level, **do not** form part of the sentence structure of articles. For example, if linarite is being described, the paragraph of text below the heading 'LINARITE' should not begin 'This mineral is ...', but rather 'Linarite is ...".

Hyphens are used for:

1. Written fractions: two-thirds, four-fifths, three-quarters;
2. Many words that begin with anti, non and neo (but check with a dictionary);
3. Separating identical letters (e.g. re-enter, but not for coordinate);
4. To avoid ambiguity (e.g. thirty-odd specimens as opposed to thirty odd specimens);
5. Ethnic origins (Greek-Cypriot, Irish-American)
6. Adjectives formed from two or more words (value-added, nickel-rich). See also 'Compound Words' above.

Hyphenation is a contentious issue. It is helpful to think of a hyphen as a courtesy to the reader; if it makes a sentence easier to understand, it is probably correct. An up-to-date dictionary giving British usage may be useful to check in uncertain cases. Hyphens are used in yellow-green but not in yellowish green where the ish takes the place of the hyphen. They are used as part of compound adjectives such as energy-dispersive analysis; fine-grained rock; alunite-group mineral.

Many authors write well-known, well-formed and similar with hyphens as they feel they are compound adjectives. This is not the case: *well* is an adverb (check the dictionary) and should be treated like any adverbial construction. It does not need a hyphen.

Hyphens should not be used as punctuation in sentences to replace commas, semicolons or colons or to separate subjunctive clauses (where brackets are commonly appropriate).

Double-barrelled nouns should not be hyphenated: 'the boundary between New York and New Jersey' not 'the New York-New Jersey boundary'. Adverbial constructions are never hyphenated: highly modified faces and octahedrally coordinated ions are correct.

Longer dashes, known as en-rules – and em-rules — are occasionally encountered. They are available with other special characters in the 'insert character' menus of word processors. En-rules are used to separate number ranges, where they replace the word 'to', for example in dates or in the pagination of references, and also as minus signs, but are not otherwise encouraged as part of punctuation. Em-rules are unlikely to be needed unless they form part of a direct quotation.

Identifications should be supported by appropriate analytical data. It is not necessary to support every mineral species described in an article by a raft of analytical data; in

many cases a visual identification by an experienced mineralogist is sufficient. However, claims of unusual or rare mineral species must be backed by appropriate supporting evidence.

The gold-standard for mineral identification is X-ray diffraction (XRD), however authors should be aware that XRD cannot differentiate between structurally similar species in certain mineral groups. Identification by XRD may be supported by electron beam techniques from which composition data may be calculated. Authors are encouraged to report these data, but should be aware of the uncertainties associated with modern standardless electron-beam analysis.

Analytical techniques, such as Raman spectrometry, infra-red spectrometry, polarised light microscopy and wet chemical analysis may provide further valuable data and their use is encouraged. The Society recognises that it may be difficult to access complex analytical techniques and may be able to provide help to authors on a case-by-case basis.

Italic font has a variety of uses, as well as its occasional value in adding emphasis to a particular word or phrase. Book and journal titles, such as the *Journal of the Russell Society*, are given in italics with the principal words capitalised. Italics are used for foreign words or phrases that have not become sufficiently anglicised to be part of normal language: e.g. *in situ* and *et al*. The Latin binomial names of animal and plant species are italicised, and the same applies to the obsolete Latin binomials for mineral species. Any mathematical quantity or other symbol that is a variable is listed in italic font in text and equations. This applies to *REE* which is used as a symbol to represent rare-earth elements.

Lists of things such as mineral species are usually given alphabetically, without a comma before the final 'and'. Thus: 'the minerals present include acanthite, barytocalcite, cerussite, fluorite, galena and quartz'.

Lists within the main text of articles tend to break up the flow, but they can be accommodated if necessary. In some cases they may provide a useful way to categorise things. The following example shows the preferred format:

> 'Malachite is probably the most common supergene mineral that occurs in the quarry. King (1973) identified three different habits:
>
> 1. Pale shades of pastel green encrustations and small botryoidal masses.
> 2. Dark green lustrous tufts and rosettes of acicular crystals.
> 3. Wires of native copper coated with fur-like growths of acicular green malachite crystals projecting at 90º to the length of the wire, some forming rosettes up to 2.3 mm in diameter'.

This sort of construction is useful if the authors go on to describe type 1, 2, and 3 malachite in subsequent sections of the article. Otherwise it might have been written:

> 'Malachite is probably the most common supergene mineral at the quarry. King (1973) described: pale pastel green encrustations and small botryoidal masses;

dark green tufts and rosettes of lustrous acicular crystals; and copper wires coated with furry acicular malachite, forming rosettes up to 2.3 mm across'.

Microprobe and other analytical data obtained using electron-beam techniques should include details of the instrument, operating conditions and standards used. Most analyses are tabulated as weight percent oxides.

Mine names should be capitalised, e.g. Carrock Mine. It is not usual to include the ores that were produced as part of the mine name: do not use 'Carrock Tungsten Mine'. Mine names do not generally need to be preceded by 'the': use Brownley Hill Mine, not the Brownley Hill Mine.

Mineral names should be taken from the latest version of the official IMA-CNMNC list of mineral names, available at: http://ima-cnmnc.nrm.se/imalist.htm. Varietal names can be used if this is clearly stated. For example, if referring to bravoite, it should be defined somewhere as 'the nickel-rich variety of pyrite, bravoite'. Mineral names are **not** routinely capitalised.

Minor elements in discussions of chemical composition generally refer to values in the range 0.1 to 1 wt%.

Minus signs, which commonly show the electronic charge on anionic species, (e.g. SO_4^{2-}) are written using an en-dash (in this case superscript), which is available in the 'special characters' menu in word processors.

Numbers are usually best spelled out in the text if they are less than ten or can be written as one word (e.g. thirty). Large numbers, in excess of 10,000, should be comma delimited. Exponential notation is preferred for very large numbers. To indicate a decimal point, use a full stop, not a comma.

Paragraphs can be set up in various ways in modern word processors, they do not generally translate to the packages used by typesetters. Authors are asked not to indent the first line in the paragraph in their manuscripts and to separate paragraphs using a single blank line.

Permission must be obtained to use figures taken from previous publications. Some data may be used under licence with an appropriate acknowledgement. Public museums and archives commonly require a particular form of words if specimens or documents are figured. Full accession numbers including the 'museum code' should be included.

Specimens which have been collected 'recently' must have the consent of the landowner and, if appropriate, permission from appropriate regulatory bodies (such as Natural England) if they are to be described in the *Journal of the Russell Society*.

Phosphorescence as regards minerals is usually better described using the term persistent luminescence (Ince, 2018).

Quote marks (i.e. double quote marks) should be used for direct quotations. They must reproduce the quotation exactly, obvious spelling errors can be identified [*sic*]

and any omission identified with an ellipsis (...) which should be separated from the surrounding words using a single space. It is not necessary to use ellipses at the beginning and ending of quotations even if they begin or end part way through a sentence. Long quotations are typically set indented on separate lines within a paragraph of text, short quotations may be left within the body of a paragraph. As a general rule full stops are placed outside of the quote marks: “end of quote”. References to quotations, especially from long volumes, should include pagination as in the following:

> A summary of the mineralogical discoveries duly appeared as the tenth of a series of articles of ‘scientific intelligence’ in *The Edinburgh Philosophical Journal* (Murray, 1825: pp. 175–176).

References cause such confusion that a separate section following the style guide is included with guidance on how they are used and examples of how they are written. Authors are asked to check that every reference used in the text is cited in the references at the end of the article, and vice-versa.

Slashes should be avoided; the and/or construction is commonly ambiguous and, if possible, sentences should be re-worded to avoid it. Care should be taken in listing variations in the appearance of specimens at a locality; usually these should be connected using the word ‘and’, not the word ‘or’. In cases in which words are connected hyphenation is preferable to slash: use a galena-sphalerite matrix not a galena/sphalerite matrix.

Single quote marks can be used in sentences where the term so called might otherwise be employed.

Single Spaces should be used after a full stop to separate sentences. Single spaces should be used between a word and an ellipsis in quotations. It is useful to use a non-breaking space between a number and units as in 19.2 kg m^{-3}, which avoids these being spread over different lines. Non-breaking spaces are inserted using Ctrl Shift Space. Do not use double spaces.

Sizes of specimens and geological features should be given in metric units, unless there is a particular historical context. Specimen sizes should be separated by a times symbol × [usually Alt-0215 on the numeric keyboard]; not a letter x. They are usually given in millimetres e.g. 170×190 mm. It is not necessary to include brackets with metric equivalents after common imperial units in quotations; most readers are aware of the size of an inch, foot, yard and mile, and the weight of a British ton (1016 kg) is so close to a metric tonne (1000 kg) as to be almost interchangeable. Certain US imperial units differ considerably from their British counterparts and in the rare cases these are used the reader should be made aware of this.

Statistical averages are occasionally used in articles that include tables of numerical data. The most common is the arithmetic mean. The mean and standard deviation (usually reported at either 1σ or 2σ) of a distribution are easy to calculate using modern spreadsheets. Numerical values should be reported at an appropriate number of significant figures.

An awareness of the difference between the standard deviation, which characterises the spread of values in a distribution, and the standard error of the mean, $\sigma/(n-1)^{½}$, which is a measure of the precision of the mean value, is essential. The editor will provide further guidance.

Symbols for physical quantities which do not require explanation include: *P* for pressure; *V* for volume; *T* for temperature; *D* for density; *d* for interplanar spacing in a crystal lattice, which may have axes *a*, *b* and *c*. These symbols are listed in italic font as they represent variables.

Trace elements in discussions of chemical composition generally refer to values <0.1 wt%.

Trademarks should be written following the guidance of the appropriate national register with the appropriate suffix added in superscript, for a **registered** trademark this is ® as in DOLOFRIT®.

Units are written as a number followed by a space and a unit symbol: e.g. 6.7 kg. The symbols for angular degrees, minutes and seconds (°, ' and ″), are placed immediately after the number with no intervening space as are °C, % and ‰. The spelling of units of length is metre (and its derivatives), not meter. There is no ° symbol before absolute temperature, which is measured in kelvins, written K.

Symbols for units formed by multiplication, e.g. N m, are joined with a non-breaking space (hold down the Ctrl and Shift keys and press the Spacebar). Symbols for units formed by division are given as a negative exponent; grams per cubic centimetre is written g cm^{-3}. Symbols do not have an appended full stop. Symbols for units are written in lower case (m, s, mol), except for symbols derived from the name of a person. For example, the unit of pressure is named after Pascal so its symbol is written Pa. A prefix is part of the unit, and its symbol is prepended to the unit symbol without a separator (e.g. k in km; M in Ma). Symbols are *never* pluralised: ‘10 cm’, not ‘10 cms’.

Vacancies are included in chemical formulae using the open-square symbol, □, it is usual to state that this represents a structural vacancy the first time it is used in an article.

XRD and PXRD are commonly used to indicate analysis by powder X-ray diffraction. It would be unusual for other types of analysis, notably the full structural datasets provided by single-crystal X-ray diffractometry, to be reported in the *Journal of the Russell Society.* In such a situation (as with the report of a new mineral) the method should be described.

For powder patterns measured using copper Kα radiation a mean wavelength of 1.541838 Å should be assumed in calculations.

REFERENCES

No other area of manuscript preparation gives as much trouble as references. They follow a set of seemingly arbitrary technical conventions.

References are cited in text to support a statement, or to direct the reader to a source of information, or for both purposes. Every reference in the reference list at the end of an article must be cited at least once in the article. The reference list must not include any works that are not cited in the text.

References can be cited in the text in two ways: the largest recorded crystals are 3.6 mm (Author, 2010); or crystals to 3.6 mm are recorded by (or in) Author (2010). If the reference has two authors this would be: the largest recorded crystals are 3.6 mm (Author1 and Author2, 2010); or crystals to 3.6 mm are recorded by (or in) Author1 and Author2 (2010). More than two authors are abbreviated using *et al*.: the largest recorded crystals are 3.6 mm (Author1 *et al*., 2010); or crystals to 3.6 mm are recorded by (or in) Author1 *et al*. (2010).

All direct quotations must include a reference. It may be useful, especially if the quote is from a long and detailed work, to include the pagination in the form (Author(s), date: pagination).

If there are two or more references to the same author or authors in the same year the letters, a, b, c and so on are added to distinguish them.

The format of references often gives cause for confusion and is best learned by example. Book titles and journal titles should be fully spelled out. In book titles and journal titles, every major word is capitalised, but in article titles only the first word and proper nouns are capitalised.

Books

The *JRS* uses the following style for books:

Author, A.N. (year of publication). *Title of Book in Italic Font with Major Words Capitalised*. Publisher, Publication City, Country (unless the city is a capital, New York or Amsterdam, in which case only the city is required) [any further useful information in square brackets].

A bracket either (ed.) or (eds) after the author or authors signifies an edited book.

Bevins, R.E., Young, B., Mason, J.S., Manning, D.A.C. and Symes, R.F. (eds) (2010). *Mineralization of England and Wales.* Geological Conservation Review Series, number 36. Joint Nature Conservation Committee, Peterborough, England.

Dana, E.S. (1892). *The System of Mineralogy*, sixth edition. John Wiley and Sons, New York.

Greg, R.P. and Lettsom, W.G. (1858). *Manual of the Mineralogy of Great Britain and Ireland*. John van Voorst, London.

Hunt, R. (ed.) (1851). *Hunt's Hand-book to the Official Catalogues: an Explanatory Guide to the Natural Productions and Manufactures of the Great Exhibition of the Industry of all Nations, 1851.* Spicer Brothers and W. Clowes and Sons, London.

Tindle, A.G. (2008). *Minerals of Britain and Ireland.* Terra Publishing, Harpenden, England.

Authors should note the publications of the British Geological Survey are listed as books to avoid the confusion that multiple editions separated by many years may produce if they are set as journals. A guide to the publisher, which may be the British Geological Survey or HMSO can be obtained from the BGS publications viewer, available at: https://www.bgs.ac.uk/data/publications/pubs.cfc?method=viewHome.

Aitkenhead, N., Barclay, W.J., Brandon, A., Chadwick, R.A., Chisholm, J.I., Cooper, A.H. and Johnson, E.W. (2002). *British Regional Geology: The Pennines and Adjacent Areas*. British Geological Survey, Keyworth, Nottinghamshire, England.

Dunham, K.C. (1990). *Geology of the Northern Pennine Orefield.* Economic Memoir of the British Geological Survey, sheets 19 and 25 and parts of 13, 24, 26, 31, 32 (England and Wales), volume 1, second edition. HMSO, London.

Eden, R.A., Stevenson, I.P. and Edwards, W. (1957). *Geology of the Country Around Sheffield: Explanation of Sheet 100*. Memoirs of the Geological Survey of Great Britain, England and Wales. HMSO, London.

Gibson, W. (1913). *The Concealed Coalfield of Yorkshire and Nottinghamshire*, first edition. Memoirs of the Geological Survey (Coalfield). HMSO, London.

Some books may have institutional authors:

British Coal (1986). *Coal in South Yorkshire*. British Coal Public Relations, Doncaster, South Yorkshire, England.

Geological Survey (1920). *Refractory Materials: Ganister and Silica-Rock–Sand for Open-Hearth Steel Furnaces–Dolomite*, second edition. Special Reports on the Mineral Resources of Great Britain, number 6. HMSO, London.

Journal Articles

The style for journal articles is:

Author, A.N. (year of publication). Title of article in sentence case. *Full Name of Journal in Italic with Major Words Capitalised*, **volume number in bold**, page range separated by an en hyphen.

Bridges, T.F. and Green, D.I. (2006). Baryte replacement by barium carbonate minerals. *Journal of the Russell Society*, **9**, 73–82.

Moles, N.R. and Nawaz, R. (1996). Harmotome associated with Tertiary dyke intrusion in mineralised breccia at Newtownards, Northern Ireland. *Irish Journal of Earth Sciences*, **15**, 145–153.

Ondruš, P., Veselovský, F., Hloušek, J., Skála, R., Vavrin, I., Frýda, J., Cejka, J. and Gabašová, A. (1997). Secondary minerals of the Jáchymov (Joachimsthal) ore district. *Journal of the Czech Geological Society*, **42**, 2–76.

Articles in some journals, especially at an early date, may be anonymous; the abbreviation 'Anon.' is used in these cases and cited as such in the text.

Anon. (1814). A list of donations to the library; to the collection of maps, plans, sections, drawings, and models; and to the cabinet of minerals, belonging to the Geological Society, from the commencement of the fifth session in November 1811, to the close of the seventh session in June, 1814. Together with the dates at which they were respectively made, and the names of the donors. *Transactions of the Geological Society*, **2**, 533–546.

In some cases an anonymous author's name can be inferred from other sources, in this case it is placed in square brackets in the reference list:

[Murray, P.] (1825). Scientific intelligence. *The Edinburgh Philosophical Journal*, **12**, 177–194 [Article 10, pp. 178–179].

If no date is known a reference should include the bracket (n.d.). An article which is accepted for publication and in press should include the bracket (in press). Articles which have been submitted but not accepted for publication should not be cited.

Chapter in an Edited Book

The general format for a chapter in an edited book is:

Author, A.N. (year of publication). Title of author's chapter in book in sentence case. Page range in: A. Editor and B. Editor (eds) *Title of Book in Italic Font with Major Words Capitalised*. Name of series with volume number if appropriate. Publisher, Publication City, Country (unless the city is a capital, New York or Amsterdam, in which case only the city is required) [any further useful information in square brackets].

Bevins, R.E. and Mason, J.S. (2010). Copper-lead-arsenic-barium vein mineralization in the Welsh Borderland. Pp. 325–329 in: R.E. Bevins, B. Young, J.S. Mason, D.A.C. Manning and R.F. Symes (eds) *Mineralization of England and Wales*. Geological Conservation Review Series, volume 36. Joint Nature Conservation Committee, Peterborough, England.

Ewing, R.C., Meldrum, A., Wang, L.M. and Wang, S.X. (2000). Radiation-induced amorphization. Pp. 317–361 in: S.A.T. Redfern, and M.A. Carpenter (eds) *Transformation Processes in Minerals.* Reviews in Mineralogy & Geochemistry, volume 39. Mineralogical Society of America, Washington DC and the Geochemical Society, St Louis, Missouri, USA.

Theses

Unpublished PhD and MSc theses are valuable source material in some studies. They are increasingly available online. As a courtesy to readers it is useful to provide an online link following the reference if such is available. The general format is:

Postgraduate, A. (year of publication). *Title of Thesis in Italic Font with Major Words Capitalised*. Unpublished PhD thesis, University of Wherever, Country [any further useful information in square brackets].

Whittle C.K. (1985). *Analytical Transmission Electron Microscopy of Authigenic Chlorites*. Unpublished PhD thesis, University of Sheffield, England.

Hornshaw, T.R. (1972). *Copper Mining in Richmondshire in the Eighteenth and Nineteenth Centuries*. Unpublished PhD thesis, Durham University, England. Available at: http://etheses.dur.ac.uk/10085/ [accessed 12 December 2018].

Maps

Maps are a valuable source of primary information and may be geological or topographic in nature. The principal map-maker in Britain is the Ordnance Survey whose maps form a basis for those published by the British Geological Survey. The general format is:

Mapmaker (year of publication). *Title of Sheet in Italic Font.* Series. Publisher, Publication City, Country.

British Geological Survey (1987). *Harrogate*. 1:50,000 series, solid edition, England and Wales, sheet 62. British Geological Survey, Keyworth, Nottinghamshire, England.

Ordnance Survey (1854). *Yorkshire, Sheet 94*. Six inch series, England and Wales. Ordnance Survey, Southampton, England.

Archival and Other Sources

Material which is taken from sources that have not been refereed should be treated with caution, especially if it is used to support a scientific statement, such as the claimed occurrence of a rare mineral. One way to include reliable information is in the format (Author Name, *personal communication*, date). For example:

> ‘The first British discoveries of celestine were made in the area around Bristol in the 1790s (Tom Cotterell, *personal communication*, 2018)’.

Articles which include historical research or biographical detail commonly draw on a wide range of archival and other material. In professionally curated archives, the archivist will be able to give guidance as to how to identify a unique document. If a reference is quoted, it must be possible, in principle, for a reader to obtain access to it. In effect, it must be held by a responsible public body. In extremis, if material is only held in a private archive, it may be possible to deposit material as electronic copy with the Journal Editor and place it on the Society Website. Examples include:

Dawson, J. (1810–1813). *A catalogue of minerals belonging to Joseph Dawson of Royds Hall. Taken in the year 1810*. [Unpublished handwritten notebook]. Geology Collection, Cliffe Castle Museum, Keighley, West Yorkshire, England.

Uttley, S. (1993). *Coalfield Minerals of South Yorkshire.* [Privately printed spiral bound manuscript]. [Copy from the private library of Max Freier; available in electronic form from the Journal Editor].

Other sources which may be of value, especially in historical research, include newspaper reports, and the annual reports of learned societies.

Scarborough Philosophical Society (1830). *First Report of the Scarborough Philosophical Society*. Scarborough, England [available as a pdf file from Scarborough Museum].

Tyne Mercury (1826). Presents to the museum of the Literary and Philosophical Society. 24 October, p. 3.

Yorkshire Gazette (1864). Death of Peter Murray, Esq., M.D., of Scarborough. 5 March, p. 9.

It has been recommended that newsletter articles are fully cited in the text, however in some cases, substantial articles are better placed in the references:

Burch, L. (1998). Mineralization hosted by Carboniferous rock of the North Staffordshire Coalfield. *Newsletter of the Russell Society*, **33**, 25–27. [Private society journal, not held by the legal deposit libraries, but cited here in journal format for convenience; available in electronic form from the Journal Editor].

(N.B. Although the Newsletter is not held in any of the legal deposit libraries it does have an ISSN and from a couple of years ago has been held in that system).

Websites

It is impossible to ignore online information, but as with archival sources care should be taken to ensure that information is reliable, especially if it is used to support a scientific statement, such as the claimed occurrence of a rare species. The general format is:

Author, A.N. (year of publication). Description or title of webpage in sentence case. Available at: website address [date accessed in square brackets].

Examples include:

CNMNC (2018). The new IMA list of minerals - a work in progress - updated March 2018. Available at: http://ima-cnmnc.nrm.se/IMA_Master_List_(2017-03).pdf [accessed 10 April 2018].

Roscoe, I., Hardy, E. and Sullivan, M.G. (2018). *A Biographical Dictionary of Sculptors in Britain 1660–1851*. Available at: http://liberty.henry-moore.org/henrymoore/index.php [accessed 17 April 2018].

Order of References

References are listed alphabetically except for long lists from the same author, which are grouped as follows:

1. single author papers first in chronological order;
2. papers with one co-author next, in alphabetic order of the co-author;
3. papers with two or more co-authors next, in chronological order.

Thus in a reference list:

Brown, A. (1975) ...
Brown, A. (1978) ...
Brown, A. and Green, D. (1972) ...
Brown, A. and White, E. (1970) ...
Brown, A., Green, D. and White, E. (1965) ...
Brown, A., White, E. and Green, D. (1977) ...

FIGURES

Figures must be supplied as separate files. In articles of mineralogical interest, an image really can be 'worth a thousand words'. Subtleties of colour and form that no amount of text can describe are communicated with ease. The variety and quality of illustrations can make or break an article. Figures may include charts, graphs, maps and plans, mineral photographs, site photographs and SEM images. They should be numbered consecutively in the order in which they are mentioned in the text. Every figure should be mentioned at least once in the main body of the text. The style used is either (Fig. 1) capitalised, in parentheses and with a full stop (preferred), or Figure 1 if not enclosed in parentheses. If a figure is referred to before or after its most appropriate position in the text this should be noted with the inclusion of the word 'see' as in (see Fig. 1). Two sizes of figure are used in JRS: single column and double column. Single column figures are 83 mm wide and double column 180 mm wide. Rarely, it may be necessary, for reasons of page layout, to make changes to an author's order of figures. For this reason authors are requested to keep text references to figure numbers to those that are essential to the reader's understanding.

Authors should ensure that figures illustrate the themes of the article. In exceptional cases it may be possible for the editor to arrange for specimens to be photographed, or maps to be drawn, but most authors are expected to supply their own illustrations. Printers require images at 300 dots per inch (dpi). There should be real detail in the image at close to this level if at all possible. A single column image will have approximately 1000 pixels and a double column image about 2000 pixels of 'real data'. Any text that is included in figures should be at least eight point when the figure is printed at these sizes.

Captions for mineral specimen photographs should include the name of the species illustrated, the size, in metric units, of the most important crystal or mineral aggregate, the owner of the specimen, the catalogue number [if there is one] and name of the photographer. If the photo is of a whole specimen, the size should be written '30×36 mm' using the × symbol [Alt-0215]. For example:

> **Figure 25**. Blocky transparent anglesite overgrown and replaced by saccharoidal cerussite. Specimen GA7 in the Peter Briscoe collection from Whitwell Quarry, Derbyshire. The field of view is 22 mm across. Photo David Green.

Please do not supply the 'magnification' of the image as this is meaningless in any image that has a level of perspective. Even an image of a 'flat' object, such as a thin-section, may have to be cropped or re-sized for reproduction. Digital images should be supplied as high resolution JPEG (saved at level 12) or better as TIF files, separate from the manuscript.

There is no standard in terms of colour and ornamentation for maps, plans, graphs and charts, but they should be clear and consistent within an article. Authors should aim for readable text, in a simple font in a size range, as printed on the final page, between eight and twelve point. The sizes used for maps are single column (83 mm) and double column (180 mm), but the larger size is usually easier to read. All maps and plans should include a north point and acknowledge any copyright source. Permission must be obtained (if at all possible) to use any figures taken from previous publications.

TABLES

Tables should be numbered consecutively in the order in which they are mentioned in the text; a list of table captions should be provided on a separate page, at the end of the document. In captions placed below tables and in the main text the word 'Table' is used in full; if more than one table is being referred to, use 'Tables 1–3' or similar. For advice on captions, please refer to the tables below. Please do not use keyboard space characters to align text and numbers in tables; instead, either use tabs, or preferably the table tools within Microsoft Word.

	P342	**P342**	**P342**	**P342**	**P342**	**P342**
CuO	49.03	49.61	48.99	49.31	49.05	49.13
As_2O_5	1.30	0.67	0.95	1.46	0.61	0.39
V_2O_5	36.58	36.99	36.61	36.63	37.37	37.35
H_2O	11.23	11.06	11.10	11.27	11.36	11.23
Total	98.15	98.33	97.65	98.67	98.39	98.10

Table 1. Composition data for a crystal of volborthite from Newhurst Quarry, coded P342. Standards used are: Cu and V = pure metals; As = cobaltite. The total including H_2O is calculated on the basis of the formula $Cu_3V_2O_7(OH)_2 \cdot 2H_2O$.

REFERENCES

Ince, F. (2018). Bologna Stone: a curious case of persistent luminescence. *Russell Society Newsletter*, **72**, 26–29.