

PROMOTING GEOSCIENCE IN SOUTH-WEST ENGLAND – 50 YEARS OF THE USSHER SOCIETY

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Five informal conferences of geologists and geomorphologists working in south-west England were organised between 1956 and 1962. At the third conference in 1960 it was decided to explore the possibility of forming a society to formalise their work and, at the fifth such conference two years later, the Ussher Society was constituted. It was named after W. E. A. Ussher, an officer of the Geological Survey, who had made the most significant contribution to understanding the stratigraphical succession in the Devonian and Carboniferous rocks of the South-West. Although the Exmouth Conference of 2012 celebrates 50 years since the foundation of the Society it is its 51st conference. Membership has fluctuated, reaching a high of about 260 in the late 1980s with a present membership of around 200. Annual conferences have been held throughout the region and have been addressed by a guest speaker. Since 1983, the guest lecture has been named the Scott Simpson lecture in memory of the Society's first chairman. A journal is published annually; initially named *Proceedings of the Ussher Society*, it was rebranded *Geoscience in South-West England* in 1998. After 50 years the Society continues to serve the geoscience community in the way its founders intended, organising conferences and field trips, and publishing work of interest to its members.

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INTRODUCTION

The Ussher Society was formed to act as a focus for geological work in south-west England, a region which has played a key role in the history of British geology. In the 17th and 18th centuries the South-West attracted natural philosophers, travellers and topographers, many of whom recorded observations of geological interest. Thus Tristram Risdon, writing in about 1630, notes that on entering Devon from Dorset to the east, within what is now the Dorset and East Devon World Heritage Site, "...the mould [the upper soil of cultivated land] standeth most upon white chalk...a little further it consists of red and blue marle which is not rocky, but an earthy substance..." (Risdon, 1811). From the end of the 18th Century agricultural writers included remarks on the underlying strata and reports on both Devon (Fraser, 1794) and Somerset (Billingsley, 1794) include soil maps on which the known "lime strata" are marked. However, probably the most significant contribution to the geology of the region at this time was made by the physician William George Maton who travelled extensively in South-West England in 1794 and 1796. His accounts (Maton, 1797, Butcher, 1968) include a wealth of geological observations which were made during the course of his journeys. These were consolidated in a *Mineralogical Map of the Western Counties of England* which was in effect the first geological map of any large region in the country (Figure 1). His classification of the rocks was based entirely on lithology and no attempt was made to put them in stratigraphical order.

In the 18th Century geological information was also becoming available through observations made in the metalliferous mines of Cornwall and west Devon and the coal mines of north Somerset. In Cornwall deposits had been exploited since the Bronze Age and by the latter part of the 18th

Century the area had become one of the most important mining areas in the world. Although much of the interest was concentrated on mineralogy and mining practice, the importance of the geological setting of mineral lodes was recognised (Pryce, 1778). The year 1814 saw the establishment of the Royal Geological Society of Cornwall to "cultivate and diffuse" a knowledge of the mineralogy and geology of the county.

Coal was mined in north Somerset from the 15th Century until September 1973 when the last mine closed. Using local knowledge gained by colliers, John Strachey was able to draw

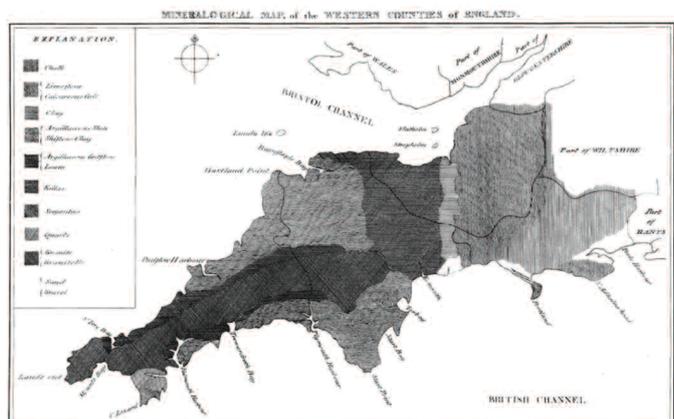


Figure 1. Mineralogical Map of the Western Counties of England from Maton (1797).

up a geological section across the coalfield (Strachey, 1719 and 1725), perhaps the first such section across any part of Britain. Later much the same data were used by William Smith, but through his work on the Somerset Coal Canal he was able to extend his geological observations to areas outside the coalfield, and by the end of 1795 he had worked out the local “order of strata” (Torrens, 2003). Subsequently from his bases, first in Bath and then in London, Smith began to travel around the country undertaking consulting work and adding to his geological knowledge. After numerous setbacks, the first version of his famous map was published in August 1815. However, although the geology of much of Somerset and Dorset is shown in some detail, this is not the case for Devon and Cornwall. The situation was improved in 1820 when the financially better supported map, compiled by George Bellas Greenough and members of the Geological Society of London was published in competition to Smith’s map. This included input from William Buckland and a young Henry Thomas de la Beche who had been exploring the south Devon and Dorset coast from his base in Lyme Regis. This Geological Society map is the first to provide a reasonably accurate representation of the geology of south-west England.

In 1830 De la Beche began more systematic geological work in south Devon (Bate, 2010). As a gentleman, with a regular income from an estate in Jamaica, he was able to undertake his research without payment. However, the collapse of the sugar price in 1831 changed his situation and, in March 1832, he approached the Board of Ordnance with a proposal to colour geologically eight sheets of the Ordnance Map of England, comprising the whole of Devon, with parts of Cornwall, Somerset and Dorset, for the sum of £300. Work on the eight sheets was completed by 1835 and was extended to include the whole of Cornwall. During his survey work he became embroiled in a dispute, with Adam Sedgwick and Roderick Impey Murchison, on the age of fossil plants in the Culm Measures, near Bideford in north Devon. Eventually, this led to the division of the general mass of deposits, which he had referred to as “grauwacke” into a younger Carboniferous sequence and older rocks assigned to a new geological system – the Devonian (for a detailed discussion see Rudwick, 1985). In 1839 De la Beche’s classic *Report on the Geology of Cornwall, Devon and West Somerset* was published; the first report of the fledgling Geological Survey, of which he had been appointed Director (De la Beche, 1839). The geological boundaries on the index map in this volume are substantially those of the modern geological map.

Complementing the work of the Geological Survey and continuing after it moved on from South-West England, discoveries were made in the region by gentleman and amateur geologists which were critical in the development of the earth sciences. Finds made by the Anning family, who ran a fossil hunting and selling business in Lyme Regis in Dorset, advanced invertebrate palaeontology in a way without parallel in Europe (Torrens, 1995). In south Devon, excavations in the Torquay and Brixham caves were instrumental in establishing the antiquity of man (e.g. Pengelly, 1873) and the origin of the anomalous rocks of the Lizard and Start peninsulas raised questions which continue to puzzle geologists today (Flett and Hill, 1912).

The official revision of De la Beche’s maps was commenced by W. A. E. Ussher in 1870. With various associates he gradually worked his way westwards surveying a large part of south Devon and Cornwall and, through his knowledge of continental Europe, correlated the Devonian rocks within the various separated areas. The maps and memoirs were complete by the beginning of World War I and some of them have become classic texts. Once the official work of the Survey had finished, and the country had recovered from the upheaval of the War, the South-West Region continued to attract research workers. However, much of the work was carried out by individuals, working in different institutions, spread throughout the country. It was against this background that in the mid-1950s a group of like-minded individuals sought a mechanism

whereby active researchers could meet together to discuss their work and exchange ideas in a relatively informal setting. The first such meeting took place at the University of Exeter at the beginning of 1956 and was to lead directly to the formation of the Ussher Society some six years later. This paper traces the growth and development of the Society, which has now been a focus for geoscience research workers in south-west England for 50 years.

FORMATION OF THE SOCIETY

Informal “Conferences of Geologists and Geomorphologists working in the South-West of England” were held in January 1956, 1958 and 1960, the first two at Exeter and the third at Bristol. The organisation of the conferences was undertaken by Drs Scott Simpson and David Dineley with the assistance of staff from the departments of Geology at Bristol and Exeter universities. The three meetings were attended by between 40 and 60 individuals, the majority of whom were post-graduate research workers or members of the staffs of various university departments. In addition a number of amateurs and industry personnel took part. Abstracts of the 1958 and 1960 conferences, which were published by the Royal Geological Society of Cornwall (RGSC), separately from their own transactions, were much in demand and widely distributed (Figure 2).

At the 3rd Conference it was decided to explore the possibility of forming a society to continue the work of the conferences on a more formal basis and to publish the

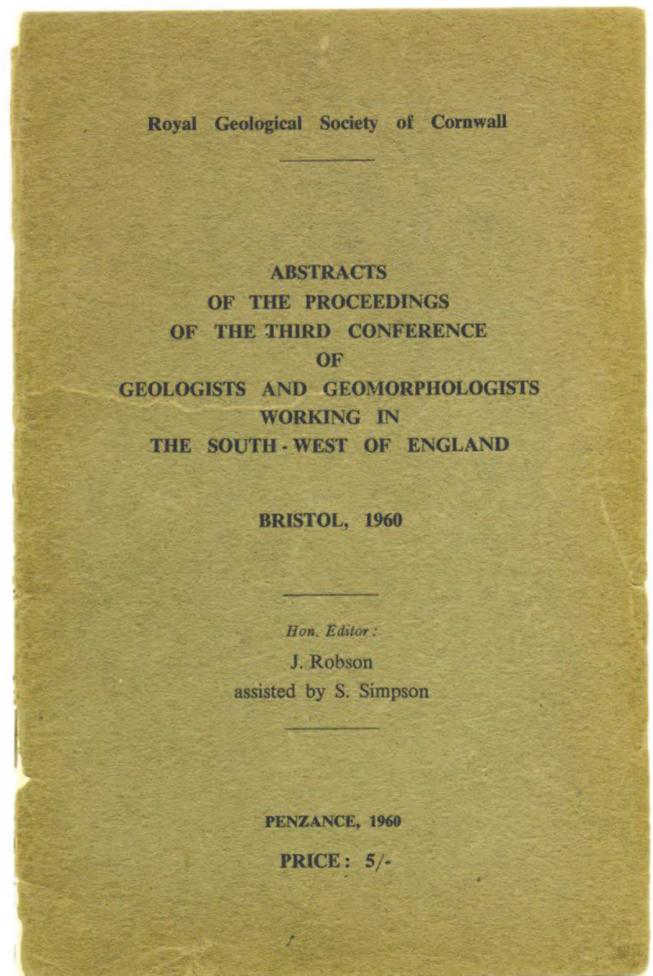


Figure 2. Abstracts of the Proceedings of the 3rd Conference of Geologists and Geomorphologists working in the South-West of England held in Bristol in 1960. Published by the Royal Geological Society of Cornwall.

increasing amount of geological research being carried out in the south-west of England. An approach was made to the RGSC inviting them to consider, jointly, a means of meeting these objectives, within the framework of their society. To encourage this, the 4th Conference was held in Cornwall in January 1961, at the Camborne School of Mines, as a joint meeting and the abstracts were again published by the RGSC.

Although the meeting was a success, discussions which took place between the two organisations were not, and it proved impossible to establish a basis for future collaboration. A small committee was therefore set up, with Dr John Dollar from Birkbeck College London as convenor, to explore ways of getting future conference proceedings published. An approach was made to the Geologists' Association with the suggestion that members of conferences might become a local group publishing their abstracts in the *Proceedings of the Geologists' Association*. The Geological Society was also approached to see if they would be prepared to publish conference abstracts in their proceedings. The response from both organisations was negative and the committee concluded that it would be possible to have abstracts printed cheaply, locally in Camborne, and if a suitable umbrella organisation existed, they could be distributed without the help of any outside body.

A 5th Conference was held in Exeter in 1962 with 66 delegates. At a business meeting, beginning at 8.30 p.m. on 11th January, in Mardon Hall at Exeter University, delegates received a report from the committee set up the previous year which, supplemented by the organisers of the current meeting, had reconvened the evening before. Acting as chairman, Scott Simpson, by now Professor of Geology at Exeter University, presented a draft constitution for a new Society to organise future conferences and publish abstracts of their proceedings. After some discussion it was accepted that a formal organisation was necessary, but the draft constitution was considerably modified to minimise the distinction between the new Society and the previous conferences. Thus the constitution ensured that the Society would have two primary functions, namely to arrange conferences and publish abstracts of their proceedings. Following adoption of the constitution the meeting constituted itself as the First Annual Business Meeting of the Ussher Society and proceeded to elect its officers and organising committee. Scott Simpson became the first chairman; Maurice Stone (Exeter University) the secretary; Colin Exley (Keele University) the treasurer and Michael House (Durham University) the first editor. The subscription was set at £1 per annum, a sum significant enough at the time to warrant a successful application being made to the Inland Revenue to allow members to deduct their subscription from income assessable for income tax. It was made clear in the invitation to join the Society that in future only members would be entitled to attend the annual conferences and receive a free copy of the abstracts of the proceedings.

A meeting which had begun as the 5th Conference of Geologists and Geomorphologists working in the south-west of England concluded as the 1st Conference of the Ussher Society and the abstracts were published during 1962 as volume 1 part 1 of the *Proceedings of the Ussher Society* (PUS). Unfortunately, the change of name mid-way through the meeting resulted in confusion which persists to the present day. For example the introduction to the abstracts of the conference held in Bideford in 1966, printed in PUS 1(5) for 1966, describes it as the 4th Annual Conference whereas the introduction to the Exeter Conference held the following year, printed in PUS 1 (6) for 1967, describes it as the 6th Conference of the Society. Arguably both are correct but the different baselines used are likely to confuse both members of the Society and the general public. The Exmouth meeting, held in 2012, celebrates 50 years since the formation of the Society in 1962. Although it could be described as the 50th Annual Conference, in fact it is the 51st Conference of the Society.

The name Ussher Society was adopted by the founders to commemorate William Augustus Edmond Ussher (1849-1920). Born on July 8th 1849 at Longhrea, County Galway, Ireland, he

joined the Geological Survey in 1868, aged 19 as an Assistant Geologist working in the London area. However, when the Survey began the revision of De la Beche's maps he was sent down to the South-West where, between 1870 and 1876, he revised a large area on the borders of Somerset and Devon. Thereafter, he spent several years in Lincolnshire, Warwickshire and other parts of the Midlands. In 1887, Arthur Champenowne of Dartington Hall, near Totnes, who was a keen amateur geologist, handed over his detailed maps of parts of Devon to the Survey and Ussher was sent to continue his lines around Torquay and Totnes (Flett, 1937). Ussher was promoted to Geologist in 1892, after 24 years as an Assistant, perhaps like others a victim of the insensitive management style of the Survey's Director-General Archibald Geikie (Wilson, 1995). He continued to work in Devon and Cornwall, much of the time alone, until his retirement in 1909 (Flett, 1937). Although perhaps undervalued by his Director, his work was appreciated by his peers and he was awarded the Bolitho Medal of the RGSC in 1903 and the Wollaston Fund and Murchison Medal of the Geological Society in 1890 and 1914 respectively. Ussher's output was impressive and he made a major contribution to the geology of south-west England (Dineley, 1974). In establishing the stratigraphical succession in the Devonian, Carboniferous and Permo-Triassic rocks of Devon and Cornwall, he provided a sound basis for future workers and the decision to name the Society after him still seems entirely appropriate 50 years later.

GOVERNANCE AND MEMBERSHIP

From the start the intention has been to keep the constitution of the Society as straightforward and simple as possible and not to produce page after page of rules and regulations common to some similar organisations. Following a short statement of the objects of the Society the constitution adopted at the 1962 meeting included clauses on membership (open to anyone), subscriptions and conference fees, conduct of an annual business meeting and the election of an organising committee who were empowered to invite a guest lecturer to conferences. The organising committee consisted of four officers (chairman, secretary, treasurer and editor) and three others, any of whom were eligible for re-election. Amendments to the constitution could be effected by a simple majority vote at the annual business meeting held in conjunction with conferences.

At the 1966 Conference in Bideford, after 5 years during which Scott Simpson had acted as chairman, the clause concerning the organising committee was amended so that the chairman could serve only for two years and was not eligible for re-election for a further two years. At the 1968 Conference, another small amendment was made increasing the number of committee members without a specific portfolio to six. As many members of the committee did not live in the south-west, primarily, this was to allow for a member resident locally to join the committee to assist in the organisation of the annual conference. At the Sidmouth Conference in 1985, some small changes were agreed which brought the constitution into line with what had become practice within the Society. These included provision for the appointment of a vice chairman. At the Newquay Conference in 2005, a modification was made to allow for the election of a website manager as an additional officer of the Society. A more substantial revision was agreed at the St Ives meeting in 2008, in particular to broaden the scope of the activities of the Society to include field trips and the encouragement of other geoscience-related activities in south-west England. Despite these additions and alterations the constitution retains its simple format, encouraging the informal meetings envisaged by the founders of the Society.

Fifty nine delegates attended the 5th Conference of Geologists and Geomorphologists working in the South-West of England. However, exactly how many of these became subscribing members of the newly-formed Ussher Society is not clear. The minutes of the business meeting held at the 1963 Conference record that subscriptions from 85 members had

been received but this included 48 subscriptions for 1963 and it would appear that during the first few years paid up members numbered between 40 and 50. By the 1968 Conference the treasurer was able to report that membership was “*of the order of 135*”. The final part of volume one of the Proceedings, complete with index, had been published the previous year and perhaps the rise in membership reflected an increasing profile for the Society.

Over the next 20 years membership continued to grow steadily. 217 members were listed by 1976 and 290 as at January 1988. However, the subscriptions of many of these were in arrears and after a number of warnings the membership was culled to 257 by the beginning of 1989. This number probably represents the peak membership achieved by the Society and was maintained until 1993 when another cull of those in arrears showed a true membership of 228. By the end of the millennium the membership had gradually reduced to around 200 and continued to fall reaching a low point of around 140 in 2004. Since then, following the production of a membership brochure and the initiation of a policy of chasing lapsed members, membership has risen to just below 200, where it remains today.

As the conferences are self financing, since its formation, the principal expenditure of the Society has been on the printing and distribution of the Proceedings. Income to pay for this is raised from subscriptions and sales of the Proceedings to individuals and institutions. The initial £1.00 subscription was increased to £1.50 in 1970 with special rates for students and Old Age Pensioners (a designation later changed to Retired Members!). At the 1976 Conference, the treasurer reported the cost of the current Proceedings (PUS 3 (2)) was £2.70 a copy and that, with an annual subscription of £1.50, the position was unsustainable. The subscription was raised to £4.00 and five further increments brought it to £15 by 1992. Continuing shortfalls meant that a further increase to £20 was agreed from January 1995. It was to be another ten years before subscriptions were again raised, this time to £25, and this rate has been maintained until the present day. Reviewing changes in the purchasing power of UK currency (Officer, 2011), an expenditure of £1 from an average income in 1962 corresponds to spending £43.60 out of an average income in 2010. Thus, in real terms, at £25, membership of the Ussher Society is considerably cheaper today than it was in 1962.

Since the early days of the Society the Proceedings have been available to institutions on subscription and numbers subscribing rose to over 50 in the late 1980s when membership was also at its peak. Costs have risen in a similar way to those to members and each annual part currently costs £30. Despite this low price subscriptions have declined and are currently around 30.

In the 50 years since its formation 24 individuals have acted as chairmen of the Society (Table 1). During the first 30 years (1962-1992), out of 14 chairmen, seven were from institutions in the south-western counties of Devon and Cornwall and seven from elsewhere in England, from as far afield as Newcastle upon Tyne, Hull and Keyworth in Nottinghamshire. This 50/50 split contrasts markedly with the situation since 1992 when all the Chairmen have been domiciled in Devon or Cornwall. This distribution is also reflected within the wider committee membership making the apartments of the Geological Society in London a convenient venue in the early years whereas, more recently, meetings have been held in the Exeter area.

CONFERENCES

Details of the annual conferences held since 1962 are given in Table 1 and their host towns are shown in Figure 3. Conferences have been held as far east as Southampton in Hampshire and as far west as Penzance in Cornwall, with Bristol the northernmost outpost. Almost two thirds of the conferences have been held in Devon and over half of them in the four towns of Bideford, Exeter, Plymouth and Torquay.

This is probably not surprising as Devon holds a central position within the region. Conferences are held over a three or four day period during the first or second week of January and, generally, two days of lectures are preceded and followed by full day field excursions. However, this format has varied depending on the date on which New Year Bank Holidays fall and on the preferences of individual organising committees.

Early conferences were held at universities and colleges of further education where both lecture theatres and overnight accommodation were available and at other venues such as the Torquay Natural History Society, the offices of English China Clays, Lovering & Pochin Ltd in Cornwall (Figure 4) and the Marine Biological Association in Plymouth, which could provide suitable meeting facilities. However, in many cases it was necessary to accommodate delegates in nearby hotels which restricted opportunities for discussion outside the formal conference sessions. For this reason, from the early 1970s, most conferences have been held in hotels, which are large enough to provide a meeting room, together with accommodation, bar and restaurant facilities, maximising opportunities for informal scientific and social interaction (Figure 5). The timing of conferences, immediately following the New Year break, means that hotels are generally eager to fill otherwise empty beds and competitive rates can be negotiated.

It has become a tradition to invite a guest speaker to address conference and, if the first year, when the Society was formed mid-way through a conference is discounted, on only two occasions has this not happened. In 1966 two possible guest speakers were identified but in the event neither could attend and, in 1971, symposia were organised on “*The structure of S. W. England*” and “*The remapping of the Teignmouth Sheet (339)*” in lieu of a guest speaker. Following the death of Scott Simpson, the first chairman of the Society, in 1981, a proposal was made at the 1982 Exeter Conference to name the guest lecture the Scott Simpson Lecture in his memory. This was agreed and the 1st Scott Simpson Lecture was given by John Murray, of Exeter University, at the Plymouth Conference the following year.

Guest lecturers have been invited from a wide range of institutions (Table 1; Figure 6) and ten lectures have been given by overseas speakers, mainly from mainland Europe. Primarily, these speakers have provided a wider view of the Variscan orogen of central and western Europe of which the upper Palaeozoic rocks of south-west England form an integral part. In the early years of the Society inviting a guest speaker incurred a significant cost and, at the Exeter Conference in 1967, a motion was tabled that “*outside speakers*” should not be invited. Although the motion was defeated the committee was instructed that expenses should be kept to a minimum!

An important part of all conferences has been the associated field excursions usually led by members of the Society. Unfortunately, over the years, early January has not proved to be the ideal time to examine coastal and moorland outcrops in south west England. Days are short leading one prominent member, Dr E. M. Lind Hendriks, to write, on seeing the excursion programme for the 1966 Bideford Conference “*Are we supposed to collect fossils by torch light now??*” The weather is often cold and wet and sometimes it has been necessary to cancel planned excursions. For example at the Exeter Conference in 1979, heavy snowfall on New Years Day followed by an exceptionally severe frost, limited the attendance at the lecture sessions and resulted in cancellation of both the pre- and post-conference excursions. More recently, at the 2009 Paignton Conference, icy conditions on an excursion to view the Hemerdon tungsten prospect (Figure 7), meant that crampons were the footwear of choice. The Society has also organised field trips not tied to conferences and recent visits have been made to the Channel Islands (Figure 8) and to the Czech Republic.

Throughout its history the Society has sought to include presentations at its conferences from all those actively engaged in research in south-west England (including the Channel Islands and related geographical areas in mainland Europe),

Table 1. Details of the 51 conferences organised by the Ussher Society and the informal conferences which preceded them; giving details of venue, chairman and guest lecturers. What is now the British Geological Survey has had various names during the period covered and, for simplicity, staff are recorded as being from the Geological Survey.

| Date | Conference | Venue | Conference Chair | Guest Lecturer | Publication |
|------|--------------------------------------|-------------------|---|---|--------------------------------|
| 1956 | 1st Conf. of Geol. & Geomorph. (CGG) | Exeter | D L Dineley (secretary) (Exeter Univ.) | | None |
| 1958 | 2nd CGG | Exeter | D L Dineley (secretary) (Exeter Univ.) | C J Stubblefield (Geological Survey) | Abstracts volume |
| 1960 | 3rd CGG. | Bristol | | Yves Milon (Univ. Rennes) | Abstracts volume |
| 1961 | 4th CGG | Camborne | Secretariat provided by RGSC | L U de Sitter (Leiden Univ.) | Abstracts volume |
| 1962 | 5th CGG 1st Ussher Conf. (UC) | Exeter | S Simpson (Exeter Univ.) | None | Proc. Ussher Soc. PUS 1 (1) |
| 1963 | 2nd UC | Exeter | S Simpson (Exeter Univ) | W S Mackenzie (Manchester Univ.) | PUS 1 (2) |
| 1964 | 3rd UC | Torquay | S Simpson (Exeter Univ) | H K Erben (Univ. Bonn) | PUS 1 (3) |
| 1965 | 4th UC | St Austell | S Simpson (Exeter Univ) | R C Mackenzie (Macauley Inst. Aberdeen) | PUS 1 (4) |
| 1966 | 5th UC | Bideford | S Simpson (Exeter Univ) | None | PUS 1 (5) |
| 1967 | 6th UC | Exeter | G Bisson (Geological Survey) | K F G Hosking (CSM Camborne) | PUS 1 (6) |
| 1968 | 7th UC | Plymouth | G Bisson (Geological Survey) | D L Dineley (Bristol Univ.) | PUS 2 (1) |
| 1969 | 8th UC | Trebetherick | W R Dearman (Univ. Newcastle upon Tyne) | J M Hancock (Kings College London) | PUS 2 (2) |
| 1970 | 9th UC | Bristol | W R Dearman (Univ. Newcastle upon Tyne) | W H C Ramsbottom (Geological Survey) | PUS 2 (3) |
| 1971 | 10th UC | Exeter | F W Sherrell (Consultant, Tavistock) | Symposia | PUS 2 (4) |
| 1972 | 11th UC | Torquay | F W Sherrell (Consultant Tavistock) | D Curry (Researcher at Univ. College, London) | PUS 2 (5) |
| 1973 | 12th UC | Weymouth | D L Dineley (Bristol Univ.) | R Casey (Geological Survey) | PUS 2 (6) |
| 1974 | 13th UC | Newquay | D L Dineley (Bristol Univ.) | J T Renouf (Jersey Museum) | PUS 3 (1) |
| 1975 | 14th UC | Plymouth | K E Beer (Geological Survey) | R A Howie (Kings College London) | PUS 3 (2) |
| 1976 | 15th UC | Torquay | K E Beer (Geological Survey) | J E Wright (Geological Survey) | PUS 3 (3) |
| 1977 | 16th UC | Torquay | M R House (Hull Univ.) | C Halls (Imperial College London) | PUS 4 (1) |
| 1978 | 17th UC | Redruth | M R House (Hull Univ.) | F W Dunning (Geological Museum) | PUS 4 (2) |
| 1979 | 18th UC | Exeter | C M Bristow (ECLP St Austell) | D H Tarling (Univ. Newcastle upon Tyne) | PUS 4 (3) |
| 1980 | 19th UC | Plymouth | C M Bristow (ECLP St Austell) | D Hamilton (Bristol Univ.) | PUS 5 (1) |
| 1981 | 20th UC | Fowey | C S Exley (Keele Univ.) | B Charoy (Petrographic Research Centre Nancy) | PUS 5 (2) |
| 1982 | 21st UC | Exeter | C S Exley (Keele Univ.) | W Franke (Göttingen Univ.) | PUS 5 (3) |
| 1983 | 22nd UC | Plymouth | I H Ford (Bristol Univ.) | J W Murray (Exeter Univ.) | PUS 5 (4) |
| 1984 | 23rd UC | Torquay | I H Ford (Bristol Univ.) | Janet Watson (Imperial College London) | PUS 6 (1) |
| 1985 | 24th UC | Sidmouth | E B Selwood (Exeter Univ.) | R S Waters (Sheffield Univ.) | PUS 6 (2) |
| 1986 | 25th UC | Weston super Mare | E B Selwood (Exeter Univ.) | D L Dineley (Bristol Univ.) | PUS 6 (3) |
| 1987 | 26th UC | Torquay | C Scrutton (Univ. Newcastle upon Tyne) | E J Cobbing (Geological Survey) | PUS 6 (4) |
| 1988 | 27th UC | Torquay | C Scrutton (Univ. Newcastle upon Tyne) | G M Clark (Editor Industrial Minerals) | PUS 7 (1) |
| 1989 | 28th UC | Bideford | C Nicholas (ECC Quarries) | M B Collins (Southampton Univ.) | PUS 7 (2) |
| 1990 | 29th UC | Dunchideock | C Nicholas (ECC Quarries) | E B Selwood (Exeter Univ.) | PUS 7 (3) |

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|------|---------|---------------------------|--------------------------------------|--|--|
| 1991 | 30th UC | Redruth | A Whittaker (Geological Survey) | J D Garnish (DG 12, EC Brussels) | PUS 7 (4) |
| 1992 | 31st UC | Southampton | A Whittaker (Geological Survey) | R Stoneley (Imperial College London) | PUS 8 (1) |
| 1993 | 32nd UC | Dartington | M B Hart (Univ. Plymouth) | G A Kellaway (Lewes, Sussex) | PUS 8 (2) |
| 1994 | 33rd UC | Minehead | M B Hart (Univ. Plymouth) | D Q Bowen (Univ. Wales, Aberystwyth) | PUS 8 (3) |
| 1995 | 34th UC | Fowey | E C Freshney (Geological Survey) | M Stempok (Charles Univ. Prague) | PUS 8 (4) |
| 1996 | 35th UC | Plymouth | E C Freshney (Geological Survey) | D Brunsten (Kings College London) | PUS 9 (1) |
| 1997 | 36th UC | Exeter | P Grainger (ERC Exeter Univ.) | M J Benton (Bristol Univ.) | PUS 9 (2) |
| 1998 | 37th UC | Bideford | P Grainger (ERC Exeter Univ.) | J T Oliveira (IMG Alfragide Portugal) | Geoscience in SW England GSWE 9 (3) |
| 1999 | 38th UC | Penzance | R C Scrivener (Geological Survey) | R R Parrish (NERC Isotope Geoscience Labs) | GSWE 9 (4) |
| 2000 | 39th UC | Torquay | R C Scrivener (Geological Survey) | K Schulmann (Charles Univ. Prague) | GSWE 10 (1) |
| 2001 | 40th UC | Sidmouth | P W Scott (CSM Camborne) | R Mortimore (Univ. Brighton) | GSWE 10 (2) |
| 2002 | 41st UC | Carlyon Bay St Austell | P W Scott (CSM Camborne) | P L Younger (Univ. Newcastle upon Tyne) | GSWE 10 (3) |
| 2003 | 42nd UC | Plymouth | C Cornford (IGI Ltd. Bideford) | J Dewey (Univ. California Davis) | GSWE 10 (4) |
| 2004 | 43rd UC | Taunton | C Cornford (IGI Ltd. Bideford) | J C W Cope (National Museum Wales, Cardiff) | GSWE 11 (1) |
| 2005 | 44th UC | Newquay | B E Leveridge (Geological Survey) | A N Halliday (Oxford Univ.) | GSWE 11 (2) |
| 2006 | 45th UC | Bideford | B E Leveridge (Geological Survey) | W. Franke (Giessen Univ.) | GSWE 11 (3) |
| 2007 | 46th UC | Weymouth | R F Symes OBE (Sidmouth Museum) | R Fortey (President Geological Society) | GSWE 11 (4) |
| 2008 | 47th UC | St Ives | R F Symes OBE (Sidmouth Museum) | R C Scrivener (Geological Survey) | GSWE 12 (1) |
| 2009 | 48th UC | Paignton | R K Shail (Univ. Exeter, Penryn) | J-B Edel (Louis Pasteur Univ. Strasbourg) | GSWE 12 (2) |
| 2010 | 49th UC | Plymouth | R K Shail (Univ. Exeter, Penryn) | J S Griffiths (Univ. Plymouth) | GSWE 12 (3) |
| 2011 | 50th UC | Bideford | M Anderson (Univ. Plymouth) | S Rowland (Univ. Plymouth) | GSWE 12 (4) |
| 2012 | 51st UC | Exmouth | M Anderson (Univ. Plymouth) | J Underhill (Univ. Edinburgh) | |

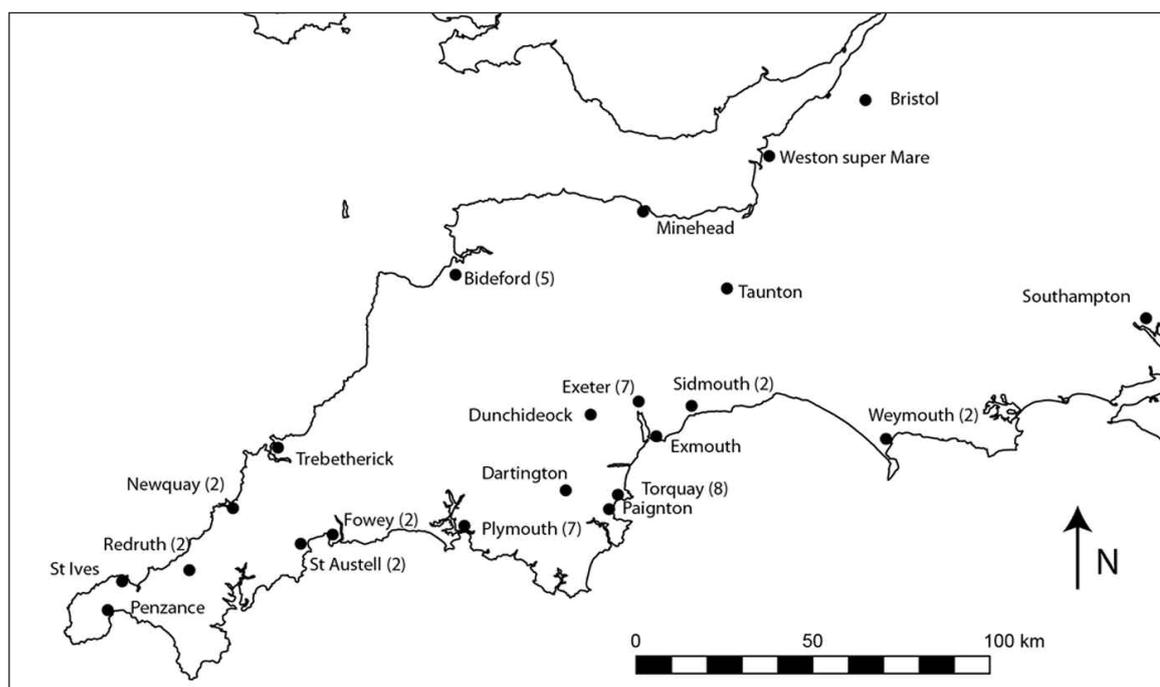


Figure 3. Locations in south-west England which have hosted conferences of the Ussher Society. The number of conferences held is shown in brackets. If no number is shown one conference only has been hosted.



Figure 4. Delegates to the 4th Conference held at Carthew House, St Austell in January 1965. The chairman, Scott Simpson stands in the centre of the front row with the local secretary, Colin Bristow on his right and Lind Hendriks (in raincoat) on his left.



Figure 5. Delegates to the 40th Conference held at the Fortfield Hotel (now demolished), Sidmouth in January 2001. The guest lecturer, Rory Mortimore, is standing on the far left of the front row with the chairman, Peter Scott, 7th from the left on the same row.

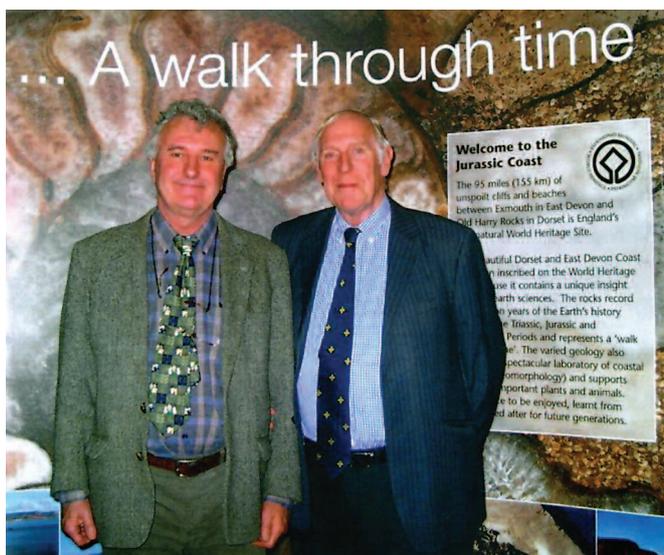


Figure 6. In 2007 the Geological Society of London celebrated its bicentenary and its President, Richard Fortey, gave the Scott Simpson lecture at the 45th Ussher Conference at Weymouth. The figure shows Dr. Fortey (left) with the chairman of the Ussher Society, Bob Symes. His talk, entitled “The intimate history of the Earth” was his first of many, in the bicentennial year.



Figure 8. John Renouf (founder member and guest lecturer, 1974) explaining relationships between diorite, granodiorite and granite in the Sorel Point Igneous Complex of Jersey on a field trip to the Channel Islands, which he led in 2008 (photograph Jenny Bennett).



Figure 7. Chris Halls (guest lecturer, 1977) examining a core from the Hemerdon tungsten prospect on the field trip following the 2009 Paignton Conference (photograph Jenny Bennett).

along with papers of significance to geologists and geomorphologists working there. Conference programmes have reflected the increasing emphasis on the use of sophisticated instrumentation and the decrease in the amount of primary field-based research

In Table 2 an attempt has been made to categorise both verbal and poster presentations given at conferences by sampling programmes at five year intervals and assigning papers to six geologically relevant groups. The groups chosen are somewhat artificial and there are some papers which are difficult to categorise (for example those on geotourism which have been assigned to environmental geology) and others which could be assigned to more than one group. Also in some years the range of papers has been influenced either by the background of the Chairman and/or the guest speaker. Thus in 1972, when the Tavistock consultant Fred Sherrell was chairman, a symposium entitled “Some aspects of engineering geology in South-West England” resulted in six papers on applied geology. In 1987 the guest lecturer, John Cobbing, compared Andean granites with those of south-east Asia precipitating a range of complementary papers on granites and mineralisation in south-west England. However, despite such problems the data provide a general indication of the changing interests of members over the 50 year existence of the Society.

| Branch of Geology | 1962 | 1967 | 1972 | 1977 | 1982 | 1987 | 1992 | 1997 | 2002 | 2007 | 2012 |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| 1. History of Geology | - | - | - | - | - | - | - | 1 | - | 3 | 4 |
| 2. Quaternary & Geomorphology | 2 | 4 | 1 | 1 | 3 | 1 | 2 | 4 | - | 2 | 3 |
| 3. Mesozoic & Cenozoic (Tertiary) | 2 | 3 | 4 | 5 | 2 | 2 | 9 | 6 | 6 | 8 | 5 |
| 4. Upper Palaeozoic | 16 | 8 | 8 | 7 | 11 | 4 | 19 | 1 | 6 | 3 | 4 |
| 5. Granites & Mineralisation | 7 | 7 | 3 | 10 | 4 | 13 | 4 | 8 | 5 | - | 3 |
| 6. Environmental | 2 | - | 1 | - | - | 2 | 1 | 5 | 12 | 6 | 3 |
| 7. Applied | 3 | - | 6 | - | 1 | 1 | - | - | 2 | 9 | 3 |
| Total papers presented | 32 | 22 | 23 | 23 | 21 | 23 | 35 | 25 | 31 | 31 | 25 |

Table 2. Breakdown of presentations given at conferences.

In the early years conference programmes were dominated by papers on basin development and deformation within the Devonian and Carboniferous rocks of Devon and Cornwall, the granite plutons which punctuate them and the associated mineralization (4 and 5 in Table 2). More recently there has been a decrease in the number of presentations on these Upper Palaeozoic rocks but an increasing interest in the overlying Mesozoic and Cenozoic sediments in the eastern part of the region (3 in Table 2), perhaps encouraged by the designation of the Dorset and East Devon coast as a World Heritage Site. Additionally, in line with priorities established within the research councils, there has been increasing emphasis on Quaternary deposits (2 in Table 2) and on environmental and applied geology (6 and 7 in Table 2) with joint sessions with the local regional group of the Geological Society. Over the last decade there has also been an increasing interest in the history of geology (1 in Table 2), perhaps reflecting the advancing age of many of the Society's members!

Despite the fact that conference programmes have changed in emphasis over the years, attendances have remained buoyant with regular turnouts of between 60 and 90 delegates and an attendance in excess of 100 at the St Ives Conference in 2008. In order to encourage students to participate in meetings, a bursary scheme has been introduced to cover the costs of those who give presentations on their work. The Society has also been fortunate to have the support of local companies and institutions, particularly what is now the British Geological Survey and IGI Ltd, a petroleum geochemical consultancy based in Bideford, but operating worldwide.

JOURNAL

Guaranteeing the publication of the abstracts of meetings was probably the overriding reason for the foundation of the Ussher Society in 1962. By the date of the 2012 Conference 50 annual journal parts will have been issued, details of which are shown in Table 3. The role of editor has become one of the most important positions within the Society and the contributions of those who have taken on this demanding role are shown in Table 4. A selection of cover designs is illustrated in Figure 9.

The 1st part, which appeared in September 1962, as Part 1 of Volume 1 of the *Proceedings of the Ussher Society* (PUS 1 (1)), was a slim octavo volume which closely followed the format of the *Abstracts of the Proceedings of the Conferences of Geologists and Geomorphologists Working in the South-West England* which had been published by the RGSC (Figure 2). The guideline for contributors was that abstracts should not exceed 450 words and, of the 32 papers presented at the meeting, 23 abstracts were received and published. This same format was continued for the remaining five parts of volume 1 (Table 3) with the addition that, from the 3rd part published in 1964, a full length paper submitted by the guest speaker was included and the permitted size of abstracts was increased to 500 words.

The octavo format was maintained for the following three volumes but there was a gradual change, from predominantly a book of abstracts, to one dominated by short and full length papers. Thus by PUS 2 (6), out of 20 listed contributions, only two were considered to be abstracts and one of the full papers went to 20 pages. Table 3 shows that by the completion of PUS 4, the average pages per part had risen from 50 in PUS 1 to 156. This increase in the size of the journal came at a cost and, as well as rises in subscriptions and increasing the income from the sale of offprints, grants were obtained from the Royal Society and from the University of Reading. Colour plates were included for the first time in PUS 2 (3), to illustrate the guest speaker's article, using a grant of £35 from the Royal Society.

At the 1980 Conference a decision was taken to increase the page size of the journal to quarto, as used by the Geologists' Association, and 1988 saw the move to an A4 format, again to conform to that used by other societies. In 1998 the name of the journal was changed to *Geoscience in South-West England* (GSWE), a move which took place in the middle of volume 9 and has resulted in confusion to librarians ever since! The journal began to move towards the electronic submission of manuscripts for volume 10 and today all final manuscripts have to be word processed and submitted electronically. Advances in technology have meant that the real cost of publication has plummeted over the past two decades. Thus the cost of printing PUS 6 (1) in 1984 was £3154 which, using the retail price index, is equivalent to £7560 at 2009 prices (Officer, 2011). This compares with a cost of £3949 for printing GSWE 12 (2),

| Volume | Starting year | Parts | Size | Cover | No of Pages | Pages per Part |
|--------|---------------|-------|--------|---------------------|-------------|----------------|
| 1 | 1962 | 6 | Octavo | Pale Blue | 301 | 50 |
| 2 | 1968 | 6 | Octavo | Pale Blue | 625 | 104 |
| 3 | 1974 | 3 | Octavo | Pale Blue | 454 | 151 |
| 4 | 1977 | 3 | Octavo | Pale Blue | 468 | 156 |
| 5 | 1980 | 4 | Quarto | Brown | 493 | 123 |
| 6 | 1984 | 4 | Quarto | Grey | 562 | 140 |
| 7 | 1988 | 4 | A 4 | Dark Green | 430 | 107 |
| 8 | 1992 | 4 | A 4 | Yellow | 460 | 115 |
| 9 | 1996 | 4 | A 4 | Pale Blue | 397 | 99 |
| 10 | 2000 | 4 | A 4 | White | 453 | 113 |
| 11 | 2004 | 4 | A 4 | White and Red | 362 | 90 |
| 12 | 2008 | 4 | A4 | Colour Illustration | 370 | 92 |

Table 3. Format and size of the various volumes of the *Proceedings of the Ussher Society* and *Geoscience in South-West England*.

| Volume number and years | Parts | Editor (with total number of parts edited) |
|-------------------------|-------|--|
| PUS 1 1962 - 1967 | 1 - 6 | M R House (6) |
| PUS 2 1968 - 1973 | 1 - 6 | E B Selwood (6) |
| PUS 3 1974 - 1976 | 1 - 3 | A Whittaker |
| PUS 4 1977 | 1 | A Whittaker (4) |
| PUS 4 1978 - 1979 | 2 - 3 | R A Edwards |
| PUS 5 1980 - 1981 | 1 - 2 | R A Edwards (4) |
| PUS 5 1982 - 1983 | 3 - 4 | G M Power |
| PUS 6 1984 - 1987 | 1 - 4 | G M Power (6) |
| PUS 7 1988 - 1991 | 1 - 4 | P Grainger (4) |
| PUS 8 1992 - 1995 | 1 - 4 | B W Williams |
| PUS 9 1996 - 1997 | 1 - 2 | B W Williams |
| GSWE 9 1998 - 1999 | 3 - 4 | B W Williams (8) |
| GSWE 10 2000 | 1 | C L Williams (1) |
| GSWE 10 2001 - 2003 | 2 - 4 | D Pirrie |
| GSWE 11 2004 - 2007 | 1 - 4 | D Pirrie |
| GSWE 12 2008 - 2011 | 1 - 4 | D Pirrie (11) |

Table 4. Editors of the various parts of the *Proceedings of the Ussher Society and Geoscience in South-West England*.

in full colour, in 2009. From GSWE 11 (4) there has been the opportunity to publish in colour, and now most papers feature coloured illustrations.

One of the main concerns of early editors was fitting in the number of papers submitted for publication and page limits were imposed on authors. More recently the opposite problem has occurred and, although the number of conference presentations has not dropped significantly (see Table 2) it has often proved difficult to persuade speakers to write up their work for publication in the journal. A review of recent issues of the journal shows that it is sustained by contributions from older retired members, who are still geologically active, rather than by the university staff and research students who were the main contributors to earlier volumes. The lack of submissions has been blamed on the pressure academics are under to publish in "high impact" journals and the failure of the Society to have its journal papers cited in international citation indices. However, there are other factors which have had an impact, including the closure of the Exeter University Geology Department in the early 1990s; the running down of the Geological Survey's Exeter Office and its closure during the first decade of the present century; and funding problems at the Camborne School of Mines with a reduction in its geological staff and eventual integration into the University of Exeter's Tremough Campus near Falmouth. The private sector has also come under pressure and junior employees are seldom allowed the time to write up case studies and develop ideas for publication.

The shortage of submissions has meant that the main criterion for acceptance of papers has changed over the years. Early volumes of the Journal published only papers which had been read at the annual conference that same year. Later the word normally was added and the Society reserved the right to solicit topical papers for consideration. For volume 12 the Society dropped any requirement for a paper to have been read at an annual conference, welcoming papers related to any

aspect of the geology or geomorphology of south-west England along with papers of broad interest to geoscientists working there.

CONCLUSIONS

The south-west of England has a special place in the history of British geology. William Maton's *Mineralogical map of the Western Counties of England*, published in 1797, was the first attempt to construct a geological map of any region in the country; the Geological Survey started its work in Devon and its first memoir, published in 1839, was on the geology of the south-western counties; Devon is the only English county to give its name to a geological system – the Devonian; and the Royal Geological Society of Cornwall, founded in 1814, is one of the oldest of all geological societies.

Its geology has long attracted university research workers to the South-West and in the mid-1950s informal conferences were organised where such individuals could meet together to discuss their work. At the 5th of these conferences in 1962 a decision was taken to form a society to arrange future conferences and publish abstracts of their proceedings. The Society was named after the Survey geologist W. A. E. Ussher who remapped much of the area between 1870 and 1909.

Scott Simpson, Professor of Geology at Exeter University, became the first chairman and guided its affairs for the first four years. A simple constitution was adopted and the Society achieved a membership of over 250 in the late 1980s. Membership has since fluctuated but from a low of 140 has risen to about 200 today. Members have been recruited from universities and institutions throughout the UK, although for the last 20 years the majority of members have been domiciled in the South-West.

Conferences have been organised annually and the 2012 Conference in Exmouth is the 51st Conference of the Society. Almost two thirds of these have been held in Devon, with Torquay the most popular venue. Guest speakers, some of whom have been from overseas, have been invited to address most conferences. As well as a lecture programme, conferences have included field excursions, despite the often very cold weather in early January. Early conferences were dominated by papers on the Upper Palaeozoic rocks of Devon and Cornwall together with the granites which intrude them and their associated mineralisation. More recently there has been increasing interest in the Mesozoic and Cenozoic sediments and environmental and applied geology.

By the 2012 Exmouth Conference 50 annual journal parts will have been issued. Starting as *Proceedings of the Ussher Society* it was renamed *Geoscience in South-West England* in 1998. Advances in technology have meant that publication costs have fallen in real terms over the years and authors now have the opportunity to publish in colour. Early editors had problems with a surfeit of papers whereas in the 21st century it has proved difficult to persuade conference speakers to write up their work for publication. The journal now welcomes papers related to any aspect of the geosciences of south-west England, whether or not they have been read at the annual conference.

The Exmouth Conference marks 50 years since the Ussher Society was founded, at a meeting in Exeter University's Mardon Hall, on January 11th 1962. During this period the Society has organised conferences and published the work of its members in a refereed and well-produced journal. Attendances at conferences suggest that it still has a role to play, acting as a catalyst to bring together research workers with an interest in the geology and geomorphology of south-west England. By submitting papers to the journal, or encouraging others to do so, members will decide whether or not publication of an annual volume of the journal can continue. However, whatever the future brings, for the past half century the Society has served the geoscience community in the way its founders intended and can take pride in that achievement.

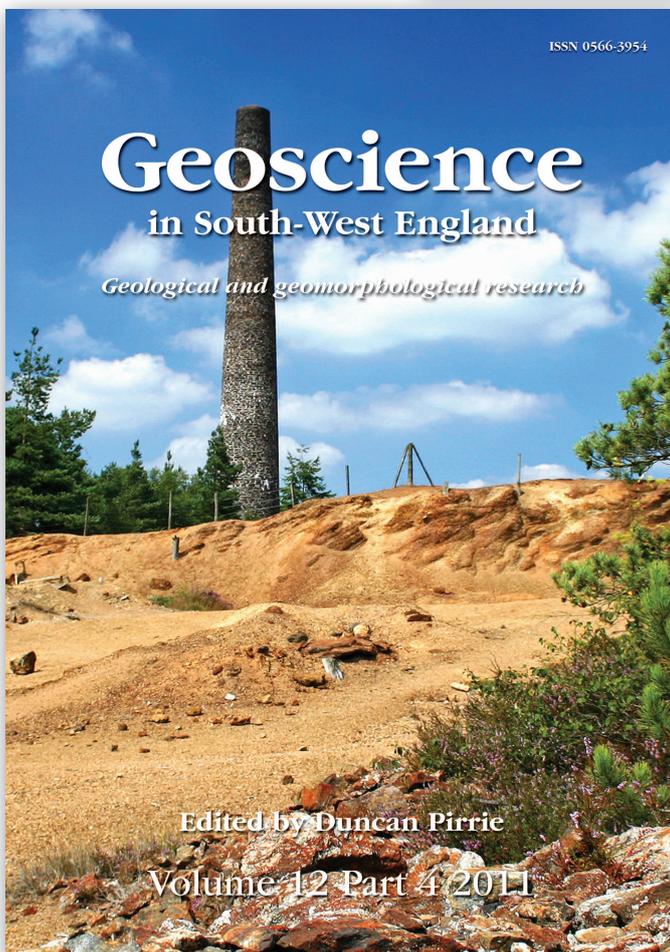
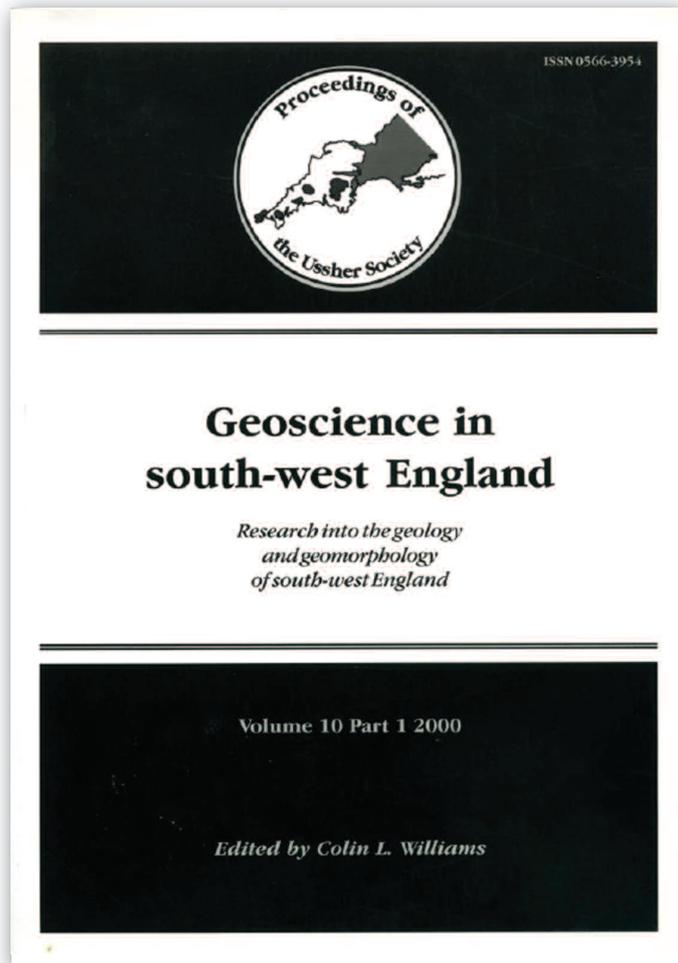
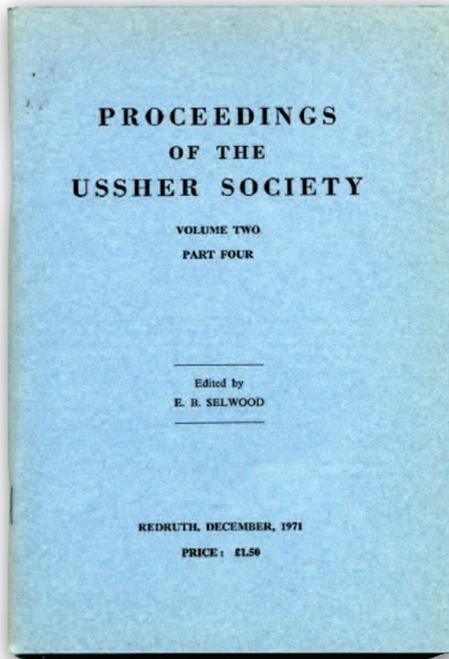


Figure 9. Examples of designs used on the covers of the Ussher Society Journal. Upper left is the simple cover used from 1962 to 1979; the design at upper right was used between 1992 and 2007 with different background colours; the design left is used currently but with a different view each year. The change from *Proceedings of the Ussher Society* to *Geoscience in South-West England* took place in 1998.

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