Notes and Queries

The Newsletter of the GA Independent Schools Special Interest Group

April 2017

GA Conference Edition 2017

Welcome to the Summer Term edition of Notes and Queries. This publication was originally published once a year for the GA conference and this year, it was decided that we would extend the publication to three times a year. We have had very positive feedback about this new initiative and we are pleased that the circulation list is now over 500 schools.

We would urge you to share this amongst your fellow colleagues, both in your departments and to SLTs, especially your academic deputy heads and directors of studies. We would also suggest that it is passed to the member of your SLT who is responsible for CPD to show what great value the Geographical Association provides for schools.

This edition once again features a range of articles of interest to school geographers. Karl Donert, President of EUROGEO, provides an account of their work and the projects they are involved in. At just €40, EUROGEO is great value for any school and despite the looming Brexit, the UK will still very much be involved in their activities.

Our former chairman, Paul Baker, writes about the current state of affairs in Prep School Geography and lists the upcoming opportunities for their teachers for targeted CPD. Dr. Richard Bustin, another committee member has detailed the GeoCapabilities project, a project that he has been involved in that provides great opportunities for both senior and prep schools.

Our last two articles provide a case study of the recent Italian earthquakes. Philip Pitcher, a Physical Geography specialist at Oundle School, has written about the causes of the earthquake while Rob Morris, the ISSIG administrator, has produced a piece about the impacts on the local area. Both were on the ISSIG teachers trip there in November last year and experienced the immediate aftermath.

We will have an ISSIG stall in the exhibition area at the Conference. Please feel free to drop by for a chat and come and talk to us at the networking event on the Friday lunchtime.

It was good to see so many Independent School Geographers at the GA Conference in Guildford, despite the difficulties for many schools with the start of the Summer Term. Next year, the Conference will be taking place at Sheffield Hallam University from Thursday 5th to Saturday 7th April when the GA will be celebrating their 125th anniversary.

Innovative Geography projects from EUROGEO

EUROGEO (http://www.eurogeography.eu) is the European Association of Geographers, created in 1978 when the European Commission sought to break down borders and encourage the mobility of teachers and educators across Europe. Initially it was the meeting place where the Presidents of national Geography associations and senior teachers and educators would come and share any issues they faced.

Today EUROGEO is a membership-based organisation connecting geographers, teachers and educators from across Europe and beyond. As a non-for-profit organisation it organizes workshops meetings and conferences as well as publishing latest research through its open access journal, the European Journal of Geography (http://www.eurogeographyjournal.eu).

Karl Donert is a consultant and education specialist. He is President of EUROGEO, a UK National Teaching Fellow and an expert to the European Commission and a member of Academia Europea.

Karl ran ISSIG before Paul Baker up until 1992.

EUROGEO aims to promote geography and to examine and develop innovative ideas for teaching and learning in schools and universities. We work with many different organisations to explore and develop new approaches. The rest of the article describes a couple of these state-of-the-art projects, GeoCapabilities and GI-Learner, which may be particularly useful for teachers in independent schools.

GeoCapabilities is a new approach designed to enhance subject specialist teaching in schools and is covered in great detail by Richard Bustin's article later in this newsletter. To keep up to date you can subscribe to the GeoCapabilities newsletter via the website and follow the project on Facebook and Twitter.

GI-Learner is an EU-funded project to develop curriculum resources, classroom materials and assessment on spatial thinking and the use of geographic information. GI-Learner aims to develop a learning line (Table 1) for secondary schools in GI Science, so that the integration of spatial thinking can take place in classes. This involves translating spatial and other competences, taking into account the age and capabilities of students, into real learning objectives that will increase spatial thinking education activities and help produce the workforce we need now and for the future and geospatially literate citizens.

Table 1: Example learning lines

Learning lines	Field work	Working with images	Working with maps	Working with statistics	Creation of knowledge
Level 1	Perception – knowledge of facts				
Level 2	Analysis – selection of relevant geographic information				
Level 3	Structure – look for complex connections and relationships				
Level 4	Application – thinking problem solving				

Materials and resources are already available for teachers to trial with their classes for Years 7 and 10 and further are being developed for Years 8,9, 11 and 12. They can be accessed, with the learning lines on the project Web site (Figure 1).

Figure 1: GI-Learner Web site (http://www.gilearner.ugent.be/)

EUROGEO will hold its next annual meeting 15-17 March 2018 in Cologne, Germany, this will be an excellent opportunity to meet with other teachers and educators participate in education workshops and share your activities and ideas with others. Find out more at www.eurogeography.eu and follow EUROGEO on LinkedIn, Facebook and Twitter. I can also be contacted at eurogeomail@yahoo.co.uk

GA Independent Schools Special Interest Group

Summer Conferences June 2017

Monday 26th June – Repton School, Derby

Wednesday 28th June – Charterhouse, Godalming

Cost - £50/head - GA Members, £75/head Non-GA Members (includes lunch and refreshments)

Identical Programmes include:

Speakers on:
Carbon and Water Cycles, Global Governance and Global Systems, Changing Places, A Level Individual Studies, Data Manipulation and GIS.
GCSE, IGCSE and Post 16 Qualification Forums

Further details will be sent to schools after Easter and will be booked through the GA website or contact rhmconsultancy8@gmail.com

Report from the IAPS Geography Adviser to Prep Schools about 2016/2017.

The major concern that has arisen during 2016 and 2017 is where we go with CE Geography now that Pre-Tests at Year 6 are becoming more common as the entrance test for Senior Schools. With this in mind, the IAPS Geography Teachers Conference in Warwick on Thursday 16th November 2017 will be titled as 'Geography for the 21st Century'. (*see calendar of future events at the end of this report.*) This will be my last IAPS Conference as I will be retiring after 25 years as IAPS adviser (first known as the Geography Co-ordinator and later known as Geography Adviser.) Hopefully we will have a good turnout for this important Conference.

Paul Baker is the former Chair of the ISSIG.

Paul has taught at several schools including Rugby and The Dragon in Oxford. Since retirement in 2008, he has become Geography Adviser to the IAPS and Expedition Officer for Earthwatch UK Student Expeditions.

He can be contacted at
bakerpabs@gmail.com

Currently, the biggest issue with the CE Geography exam is still that many Senior Schools don't feel it differentiates enough and the need for geography skills/understanding to be more important. I know the CE setters are aware of this and are developing questions to cover these points. Synoptic questions and data-response questions are being planned by ISEB setters for future exams. The future of what has become a setting exercise for many Senior Schools is likely to be discussed further.

This is a worry, especially as Prep Schools seem to think that some Fieldwork is not essential, yet the Senior Schools want fieldwork and other skills as essential parts of the pupil's portfolio when they arrive with them. However, the message is that as geography becomes more popular at GCSE and Post 16, Prep School geography needs to provide pupils with the skills and understanding as well as some knowledge at ages of 11 and 13 when they go into their Senior Schools. This should allow them to arrive in their Senior Schools properly prepared for taking on new and challenging geographical studies for GCSE and Post-16.

The academic year 2016/2017 saw Geography Days for Teachers around UK and linked to GA CPD events. We have covered a variety of different types of training and for different Key Stages. For example, the ever successful Bushcraft Geography for those teaching younger children as well as those days for CE teaching. It was also good to see several Prep School Geography teachers at the GA Conference in Manchester. It is also gratifying to see IAPS Schools getting awards from the GA for entering the GA Quality Mark Scheme. This is excellent CPD for Geography teachers. Discussions this year with Geography departments at schools taking IB and with some who have dropped out of CE have taken place also during the year.

We had a very successful IAPS Geography Course in Warwick in November and I received thanks showing appreciation for the course. Thanks to Helen Hill at IAPS for all her work and to Stuart Whithear (Farleigh) and Gavin Turner (Head of Geography at St Edward's Oxford for providing

excellent sessions.

We also held geography IAPS Cluster Group Meetings in 2016 in different areas of the UK.
This is made possible too through the Heads of Geography at Radley, Charterhouse, King's Canterbury/Tonbridge, King's Ely, Wellington College and Oakham for running Prep School Geography Teacher's Days too. We are organising another day at Abingdon School for District 10 to start a course on use of GIS in Prep School Geography. We will open this up in future to other districts once we have seen how it goes. All future courses planned so far up to end of 2017 are shown at the bottom of this report.

Thanks also to these Heads of Prep schools, Richard Fenwick at Hazlegrove, Gareth Jones at St Andrew's Eastbourne, Dougal Philps at Solefield, Alison Francombe (Kenya) and Richard Stevenson at Castle Court for hosting Prep School Geography Teachers CPD days over the last year.

Finally, a big thank you to all the District Geography coordinators over 2016 who organize one district meeting a year. The coordinators are Paul Bailey at Lochinver House (London North), Linda Payne at Solefield, Sevenoaks (Kent), Andrew Farquhar at Hazlegrove House (West), Stuart Whithear at Farleigh House (Wessex), Alan Parkinson at King' Ely Junior School (East Anglia), Ben Mono at Eagle House (Oxford and Reading), Ian Purvis at St Mary's Melrose (Scotland), Phil Salkeld at Belmont (Surrey), and Chris Daubney at the Banda (Kenya). We are looking for new Coordinators in London South, the Midlands the North West, York, and the Middle East.

IAPS Courses for the rest of 2017

Thursday May 4th	Oxford GA Branch and all Districts. Prep and Primary School Day KS1 and KS 'Bushcraft Geography' with Gyles Morris
Tuesday June 13th	District 6 at Repton School Feeder Schools also invited) With Riccardo de Rosa and Paul Baker. Teachmeet to discuss resources, Fieldwork and CE
Tuesday June 27th	Charterhouse Annual Prep School Teacher's Geography Day Invitation from Charterhouse and to all Districts with Peter Price (Head of Geography at Charterhouse) with Paul Baker, Simon Lewis, John Widdowson and the GA advisers
Thursday October 5th	For Prep Schools in District 10 and 6 at Abingdon School "GIS for teaching Prep School Geography" Presented by the Abingdon School Geography Department in their new GIS facility in their new Geography Department Building. (Restricted to 20 teachers)
Thursday Nov 16th	The IAPS Geography Conference at the Woodland Grange, Old Milverton Lane, Leamington Spa CV32 6RN "A geography for the 21st Century – the future for geography teaching in Prep Schools" Contributors include Heads of Geography from Senior Schools and John Widdowson.

GeoCapabilities: Exploring the powerful disciplinary knowledge of geography

Readers of Notes and Queries will be familiar with many of the key issues affecting the Independent sector geography curriculum. Articles often explore the links between Prep School and Senior School geography, the nature of geography in examination specifications and new theories and ideas for teachers to use with classes. Yet one common strand is the need to maintain rigour in a national curriculum that seems to value generic competencies and skills, such as the pervasive 'learning to learn' philosophy, over the development of subject knowledge. It is almost as if traditional subject knowledge, through a subject based curriculum is somehow old fashioned and not suited for pupils in the 21st Century.

Dr Richard Bustin is head of Geography at the City of London Freemen's School, Ashtead, Surrey and a member of the ISSIG committee. He was a project partner in the GeoCapabilities project.

The new GCSE and A Level courses introduced in 2016 returned 'knowledge' back to the heart of the geography curriculum but these courses seem to have garnered the same criticism that the Common Entrance course have suffered for years: there is now so much content to get through there is little time for any deep exploration of issues. No time is left for engagement with geography in anything more than a superficial race through concepts and places to meet the criteria for the specifications.

It was in part this notion that led to the development of the GeoCapabilities project, an internationally funded project in geography education. The project itself ran from 2014-17 and focused on the bigger questions of our professional role, exploring how the knowledge content of geography as a school subject is truly empowering for young people. It asked how geography can enable young people to think in disciplined ways, how it can enable them to relate to issues and decisions they face in life. These 'capabilities' are important for young people to develop as they grow into citizens of the 21st Century, and 'GeoCapabilities' expresses the role of the 'powerful disciplinary knowledge' of the subject of geography. The project had a range of partners from across the world, including EUROGEO, the Geographical Association and several Higher Education institutions. Two UK schools were involved, both Independent schools: Stafford Grammar School and the City of London Freemen's School.

The project has created a website of materials: www.geocapabilities.org (see Figure 1). Here, teachers can find out the background the concepts of capabilities, powerful knowledge, GeoCapabilities as well as taking part in a range of teacher training activities which can be integrated into existing CPD and INSET training. The project team have also written a variety of articles which explore the concepts further, such as Hawley et al (2017) in 'Teaching Geography'.

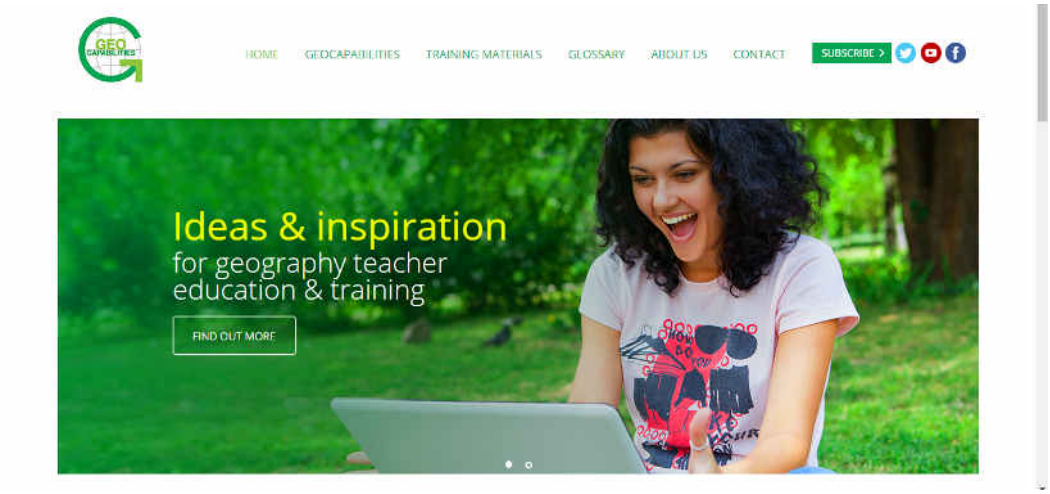

Figure 1: The GeoCapabilities website

An opportunity for some joint CPD between Prep and Senior Schools?

At the heart of developing GeoCapabilities in young people is the idea of teaching the powerful disciplinary knowledge of geography (PDK) to pupils. This is not achieved by whizzing through concepts to meet the needs of a specification, but by enabling a deep focus on the knowledge which is at the heart of our discipline. Michael Young is responsible for the notion of 'powerful knowledge' (e.g. 2008) and the project developed his definition of the concept. Figure 2 shows the definition of powerful disciplinary knowledge which can be found in the GeoCapabilities website glossary.

> Powerful Disciplinary Knowledge is a form of knowledge, often abstract and theoretical, that enables a person to understand, interpret, and think about the world. It draws in ideas and concepts derived from academic disciplines. Specialist teachers, such as geography teachers, provide students with opportunities to learn how to use geographical knowledge to think, to explain, to predict and to envision alternative futures. Because of its specialized, conceptual, and often contested nature, PDK usually should be taught by skillful and knowledgeable teachers, and is therefore unlikely to be learned informally by everyday experience.

Figure 2: Powerful disciplinary knowledge of geography (slightly abridged).

By focusing on the PDK of geography, teachers can think about what makes geography unique, significant and worthy of study and therefore can express how it contributes to the development of capabilities of young people.

One of the activities contained in the website can be used by teachers to engage with the notions of PDK. It could even provide a fantastic opportunity for teachers in both Prep Schools and Senior Schools to work together, to identify shared values and ideas about the significance of geographical knowledge. It asks geography teachers to write a short 'vignette', an illustration of something taught in geography lessons that can then be unpicked and explored to identify the geography behind it. Figure 3 shows one vignette, using the example of glacial till on the Holderness coastline, a popular case study used in schools across the country.

DESCRIPTION

My Year 10 class (15 year olds) know that 'the Holderness coastline (on the east coast of England) is made from boulder clay'.

This is not everyday knowledge. But is it 'powerful knowledge'? I would argue it is not, on its own, powerful knowledge. It is just a more or less correct 'fact'.

However, 'boulder clay' (or more precisely glacial till) could be conceptualised in several ways by different academic disciplines - chemists would be interested in its chemical composition, physicists might look at its tensile strength and the way it behaves under different stress and pressures. Geographers could look at it in many ways: for example, geomorphologists would develop their knowledge of boulder clay in terms of its physical properties of permeability, its tendency to slump and move under gravity and how it affects and is affected by its environmental context. To fully understand boulder clay geographically it needs to be placed within the context of its origins (from glacial deposition some 10-20,000 years ago) and its surroundings, which in the case of the clay on the Holderness coastline includes its location next to the sea. The actions of the sea (which can also be conceptualised in several ways) are of importance to understand the significance of the boulder clay as the wave action erodes the clay cliffs to cause rapid cliff retreat.

DISCUSSION

Our knowledge of 'boulder clay' (or glacial till) is shaped by the way it is conceptualised in the discipline of geography. For instance, we do not fully comprehend the significance of this phenomenon without knowledge of its origins, composition and location. It is this that makes it 'powerful'. It is almost the 'back story' of boulder clay - the way boulder clay is understood - that is indicative of the way geographers identify and describe it, and its significance.

Figure 3: A vignette of the 'powerful disciplinary knowledge' of geography

The GeoCapabilities website contains many examples of these vignettes drawn from teachers across the world. They are presented in the form of 'Story maps' which can be viewed on the website.

By engaging with vignettes of the powerful disciplinary knowledge of geography it forces teachers to think deeply about the knowledge content of geography; this in turn will enable more thoughtful and meaningful experiences for pupils. It will avoid the rush to cram content and treat knowledge as simply something to be learnt to be repeated. It also avoids the temptation to ignore knowledge as we develop skills for pupils' future lives. Powerful disciplinary knowledge puts subject knowledge as central to the success of young people's futures.

Conclusions: teachers as curriculum leaders.

As teachers of geography in schools we want to be teaching rigorous knowledge, but in a way that is empowering for young people. Doing this successfully is a challenge, particularly as we have to meet the needs of various examination criteria and specifications. The tagline of the project was 'teachers as curriculum leaders' and this was intentional. Whatever we might feel day to day, teachers are in control of what gets taught in classrooms. By finding an opportunity to think about what we are

teaching, in deep and meaningful ways enables us to understand how geography can contribute to the future of the young people we teach. It gets to the heart of our professional role, the heart of why we became geography teachers in the first place and these values can be discussed and shared within and between departments in schools.

References:

Hawley D, Bustin R, and Butler K (2017) GeoCapabilties: teachers as curriculum leaders, *Teaching Geography*, 42 (1), 18-22.

Young, M. (2008*). Bringing Knowledge Back In: From social constructivism to social realism in the sociology of education*. Routledge, Abingdon.

New Continents!

Having spent 39 years teaching up to 2008 that there were seven continents, it has now been discovered that there are two more continents.

In early February 2017, we were informed that there was another continent that should be added to the list. 'Zealandia. A submerged landmass half the size of Europe that only comes to the surface as New Zealand had been discovered. More recently a group of South African geologists have announced that they have found a fragment of a lost continent called 'Mautia' deep beneath an ancient lava flow.

If 'Zealandia' was hard to spot, 'Mautia' was even harder. The fragment identified is three billion years old whereas 'Zealandia' is only a mere 9 million years old.

Professor Ahwal of Witwatersand University in South Africa argues that we should define more regions as continents. This might cause geography teachers to be reviewing their understanding of a continent.

How arbitrary is the definition of a continent?

Paul Baker

ISSIG are running teacher inspection trips to visit Morocco, Umbria and Poland in the near future for teachers to explore the possibilities of using foreign and often low-cost destinations for fieldwork.

There is a trip planned for the end of June to Morocco – see next page for details.

Please contact either Paul Baker or Rob Morris for details of further trips.

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— Stephanie Buckland, Clayesmore School. Travelled June 2016

"I have been leading school trips to Morocco for the past 18 years and have loved every single one of them. Not only have they been superbly organised and safe, but they have often been life changing experiences for our pupils."
— Robert Sanderson, The King's School Canterbury. Last travelled October 2016

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— Paul Bowman, University of Cambridge, Department of Geography

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Plate Tectonics in Italy: An Introduction

In the Autumn, I was lucky enough to join Paul Baker, Rob Morris and other Geographers in Italy around the time of the major earthquake. This rekindled my interest in Plate Tectonics, and inspired me to drag out my old University notes to research the region's past and present tectonic activity. Italy has a long history of complicated tectonic movements. Ancient mountain-building tectonic forces have generally been confined to the North of the country, in the Alps, and down the central spine of Italy in the form of the Apennine mountains. Once extreme and frequent volcanic activity is now largely confined to two areas: the Roman Magmatic Province and the Sicilian Magmatic Province.

Philip Pitcher teaches at Oundle School, having completed a BSc in Physical Geography and a MSc in Environmental Management at the University of Reading.

He has been involved in Climate Change research with woodland ecology, and is a specialist in Biogeography.

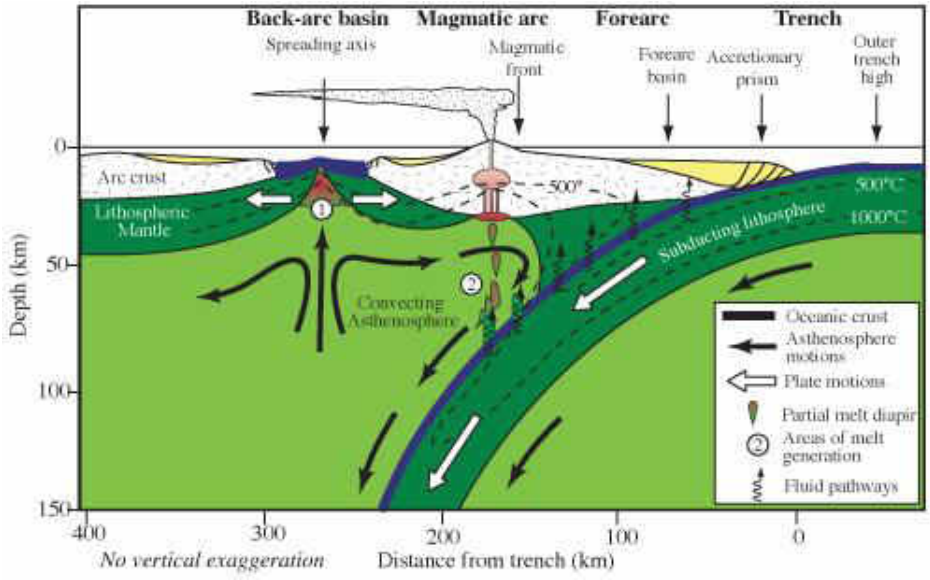
He welcomes emails over this article and other areas of his interests: *pgp@oundleschool.org.uk*

Today, multiple microplates, littered with even more complex faults, are responsible for today's seismic and volcanic activity. The Adriatic & Apulian micro-plate is largely subducting under the Apennine mountains. To the north of `Italy, the collision zone between the Eurasian and African plates remains active, and there is the opening-up of the Tyrrhenian basin to the west, between Sardinia, Sicily and mainland Italy.

Recent seismic events may suggest a new phase to Italy's tectonic timeline; including possible reactivation of dormant volcanoes as well as continued infilling of seismic gaps (*zones of absence of seismic activity along fault lines*). An example of the re-awakening includes the dormant super-volcano 'Campi Flegrei' found in the Gulf of Naples. The volcano, which has not erupted for 500 years, is experiencing an increased level of seismic activity. Its last eruption, around 39,000 years ago, was the largest one Europe had seen in over 200,000 years. I want to provide you with a taste of two aspects of this Italy's plate tectonics: firstly, The Tyrrhenian Sea Back Arc, and then the October Earthquake.

The Tyrrhenian Sea & The Back Arc

Back arcs are features of the ocean (sub-marine) due to tensional/extensional stresses (where the earth's crust is being stretched). They can, over long periods of time, widen ocean basins and are a crucial way by which the interior of the earth exchanges heat with the earth's surface. The Tyrrhenian Sea is the oceanic zone between Corsica/Sardinia and mainland Italy. The sea floor receives plentiful geothermal heat (as much as 200Wm^2 compared to around 60-100Wm^2 elsewhere in the region); this is due to a multitude of what are called 'asthenosphere intrusions' i.e. magma and hotter rocks forcing their way into the crust from deeper down in the mantle (approx. 700km) due to the crust becoming punctured/fractured due to its movement. The heat is released as latent heat as the magma/hot rocks intruded into the crust start to cool. The heat is what forces the crust to spread, leading to the extensional forces forming. Back arcs are a rarity outside of the Pacific.



A generalised back arc formation, *(convecting asthenosphere is the site at which asthenosphere intrusions take place)*. (Source: Wikipedia)

Using the diagram above, it becomes possible to imagine what is happening to the South of Italy. Very roughly, the zone below the boot of Italy, the Ionian Sea, is the Forearc. The Sicilian magmatic province is the magmatic arc. The Tyrrhenian Sea is the back arc basin. The back arc in Italy is suggested to be spreading at different rates, though at or less than a few cm's per year.

The Earthquakes of 26th October to the 30th October 2016

The causes of these earthquakes are extremely convoluted, however, it is generally accepted to be due to reactivating or newly forming normal/reverse faults on a 20-30km band running through the Apennine mountains. The earthquake event on the 30th October was the largest event for 36 years, at 6.5 on the Richter scale (Rs). It was preceded by several foreshocks, some as high as 5.9 on the Rs. The largest prior to this was in 1980, namely the Irpinian Earthquake.

"It can sometimes be easier to predict where an earthquake will occur than when."

This was the case with the Norcia earthquake, using something called the seismic gap hypothesis. This is essentially a process which maps all recent and historic seismic activity and attempts to work out the region's which are most prone to future seismic activity, namely any 'seismic gaps.' The earthquake occurred in a gap which had not had earthquakes for hundreds of years. The approach is highly rough and ready.

In these events, no one was directly killed because of the earthquake, largely due to most of the zone being devoid of people due to the foreshocks the few days earlier and the timing of the event early on a Sunday morning. A large crack in a nearby mountain did form, raising concerns for the valley settlements below.

A crack in a mountain nearby to Norcia (Source: Sky News).

Further Reading
Understanding Plate Tectonics in Italy (Advanced):
ftp://ftp.ingv.it/pub/filippo.muccini/SGI_VIRTUAL%20EXPLORER/tectonic-magmatic-geodynamic.pdf

The Impacts of the Italian Earthquakes of 201

Rob Morris is the administrator of GA ISSIG and editor of this newsletter.

Recently retired from teaching Geography at Shrewsbury School, he is now doing consultancy work that involves PGCE tutoring and writing for several publishers. A prolific author, he has recently been writing materials for Caribbean schools.

Like Philip Pitcher, I was on the ISSIG trip to Umbria at the beginning of last November. Our original plan was to look at the impacts of the earthquakes hit Umbria in August, but as we sat waiting for our flight at Stansted airport, news came through on our phones that a major earthquake had hit Norcia. Our plans had to be changed (*as my article in January's Notes and Queries explained*) and enabled us to observe the immediate aftermath of an earthquake.

We later found out that the earthquake that morning was a 6.6 magnitude and had been Italy's biggest earthquake in over 35 years. It had been felt over much of the country and did extensive damage to the medieval city of Norcia. This had been preceded the previous week by earthquakes measuring 5.5 and 6.1 on the 26th October which were aftershocks from the August event. The region also had a major aftershock measuring 4.8 on the 3rd November.

What were the immediate impacts?

Central Italy had been hit by an initial earthquake on 24th August that killed 300 people, most of them in the town of Amatrice. Since August, over 20,000 aftershocks had battered the region, according to Italy's National Institute for Geophysics and Volcanology (INGV), driving many residents from their homes and seeking refuge in caravans, camper vans and tents.

The 30th October earthquake, in terms of its human costs, had caused billions of Euros of damage with irreplaceable buildings destroyed completely. However, only 3 deaths were recorded, all from heart attacks and around 200 people injured according to local press reports. Over 100, 000 were forced to flee from their homes, seeking temporary refuge elsewhere.

The ancient city of Norcia bore the brunt of the earthquake on 30th October with much of the walled city damaged and some iconic buildings, like the 14th Century Basilica of San Benedetto, damaged beyond repair.

As we travelled around those parts of Umbria affected by the 30th October earthquake, there were a few signs the area had been hit by a severe earthquake. Road closures especially in hilly areas where there had presumably been rock falls seemed widespread and buildings damaged, including our original accommodation.

In Norcia, the walled part of the city was cordoned off, with emergency services, the Italian armed forces and even cave rescue teams congregated outside the main gate ready to spring into action should they be needed. TV crews also hung around waiting for their next story.

We met a girl in her twenties sitting in a small park by the main gate. She had been away in Rome for the weekend with no idea whether her family were safe or not and was unable to enter the city to go to her home.

The impacts of an earthquake are far reaching. Norcia is famous for its cured meats like prosciutto that can sell for up to €150 a kilo. The losses facing prosciutto makers represented yet another blow to the area's cultural heritage and they must cope with significant challenges to rebuild an industry that lies at the heart of the town's identity.

"I don't have anything left, everything is destroyed," said Valentina Fausti, a leading producer. Her first blow came on 24th August, when the earthquake that levelled the town of Amatrice destroyed her home and pig barn. The second blow came after the 30th October earthquake, when she lost the building where her company's prosciutto was cured and the shop where it was sold.

Fausti was also trying to care for her 400 pigs that were at risk of being attacked by wolves now her barn has been destroyed. Wolves were re-introduced into the region in recent years to predate on wild boars that have experienced a recent population explosion having interbred with feral pigs that had escaped from farms.

"We've lost the fencing for the pigs and I don't have water for the animals," she said. "We make the highest quality prosciutto in the world and no one is helping." Italy's agriculture ministry has said it would help producers rebuild animal pens and rebuild the prosciutto industry.

What are the longer-term impacts?

At the last count, more than 22,000 people were still receiving assistance since earthquakes started wreaking destruction in dozens of scenic hilltop towns in Umbria and neighbouring Marche on Aug. 24, 2016. Most of those people — some 15,400 residents — opted to remain in makeshift dormitories in sports centres or in tents near their hometowns, though some 4,000 are still in hotels on the Adriatic coast.

The area was struck with heavy snow and sub-zero temperatures in January 2017. To make matters worse, there were 4 magnitude 5+ earthquakes in the space of 4 hours on 18th January. Many people were still living in tents and caravans, unable to return to severely damaged homes, endured dire conditions as the electricity went down and mobile phone networks failed. Thirty-four people were killed as a result of an avalanche that swept away a hotel in the Abruzzo region. This was attributed to the earthquake activity that occurred in a seismic gap.

The recent quakes have reshaped more than 230 square miles of land, lowering areas around the epicentre by up to 70 cm, according to data released by the INGV.

L'Aquila was struck by a devastating earthquake in 2009. It has been estimated it will cost €8 billion to restore to its former glory including the provision of aseismic homes. Norcia and Amitrice, all devastated by earthquakes in 2016 are likely to cost the Italian government far more. Around €130 million had been earmarked in the days following to deal with the immediate effects of the earthquakes, with better shelters made from shipping containers due by Christmas. After that, the homeless would have temporary wooden houses while their permanent homes are rebuilt, but it is the long-term prospect of rebuilding that worries many.

Earthquake damage in Norcia, Umbria
Photo: Mary Kinnear

One of the major issues in rebuilding earthquake struck cities in Italy is the relatively volatile Italian political system with uncertain funding, political infighting, power struggles, and inefficient bureaucracy. Corruption is also a major problem that is found in all walks of Italian life especially the construction industry. The involvement of criminal organisations in construction leads to poor quality materials being used and the observance of strict building codes in earthquake zones ignored.

Despite this being a prosperous part of Italy, with tourism, agriculture and industry all important to the economy and attracting people to the region. Their vulnerability is likely to increase, especially as the urban areas grow and spread away from the traditional hill top sites.

GEOGRAPHY FIELDWORK OPPORTUNITY IN ITALY

(As featured in Winter 2017 edition of 'Notes & Queries')

Looking for something a bit different? Recent events have made Spoleto a great base from which to investigate the effects of the recent earthquakes.

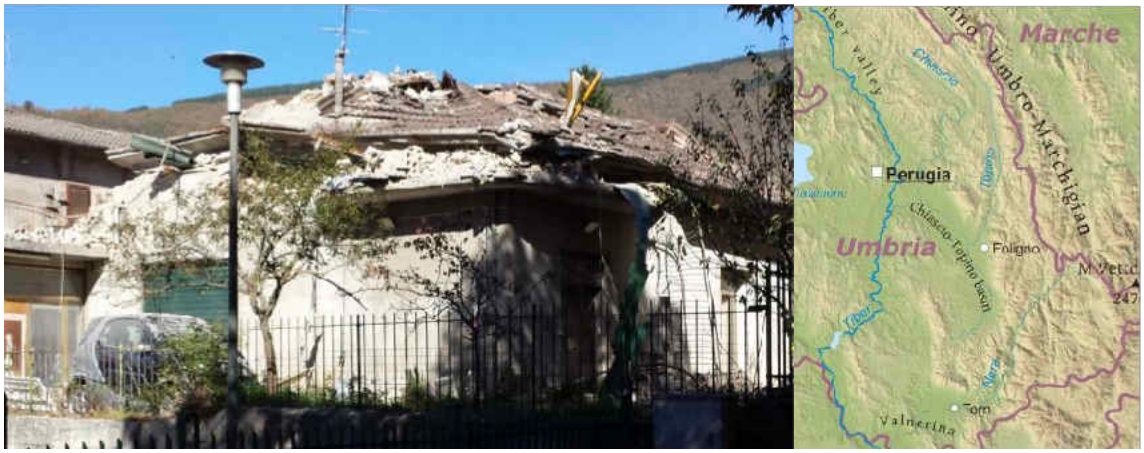
In addition to Plate Tectonics, towns such as Perugia, Assisi, Montefalco and Spoleto are ideal for the study of Physical Geography, Post Glacial Landforms, Changing Places and Rural Industries (including Wine and Olive Oil Industries).

A preliminary visit has been made by a group of ISSIG geographers:

"Tremendous insight into what is possible in Umbria. Fieldwork with a real individual aspect required in new A Level projects". ***Philip Pitcher (Oundle School)***

"*So many possibilities for Fieldwork with a variety of both Physical and Human Geography studies".* ***Rob Morris (GA & ISSIG Committee)***

"*With my move to Milan International School, I found the teacher's geography recce lead by Paul Baker very useful".* ***John Little (European School, Culham)***



Draft Itinerary: Day 1 – fly to Perugia/Rome. Introduction to area around Spoleto

Days 2, 3 and 4 Four distinct studies for Fieldwork for the Individual Project have been identified by our Geographical Advisers:

• The causes and effects of the 2016 earthquakes in the area.

• Changing Places theme or Urban studies including Population Studies

• Glacial Landforms in the Mountains • A Physical Geography programme

This allows flexibility for the groups and allows the individual aspect to be covered. Alternative itineraries can be put together to meet individual school needs.

Day 5 - Fly back to UK

The accommodation

Villa Campo Verde is able to offer school groups special rates out of season and can offer numerous services to enable students and teachers make the best of their stays.

PRICE based on 20 students for a 4 night stay is £470 p.p. and includes: * Bed & Breakfast * All transportation (inc. transfers to/from Perugia Airport) * Local guide for 3 days * Lunches (3 days) * Two staff members go free

Other possible extras which can be provided: packed lunches, evening meals.

Smaller groups are also welcome, but the price rises to £640 per person. We are happy to adapt this package to your needs.

Villa Campo Verde is only 30 minutes from Perugia Airport (Ryan Air run a service from London Stansted) and 90 mins from Rome's airports.

Please note this offer is subject to availability and excludes July or August bookings.

Further details can be obtained from our Geographical adviser, Paul Baker

bakerpabs@gmail.com

Those requiring the full package including flights (+ ATOL/ABTOT protection) are invited to contact, Smaug Abroad Ltd, who have experience of school trips to Villa Campo Verde.

Smaug Abroad Ltd., Belsyre Court, 57 Woodstock Road, Oxford, OX2 6HJ Tel.: 01865 292 075, info@smaugabroad.com

GA ISSIG Calendar of Events 2017

Thursday April 20th - Saturday 22nd 2017 - GA Annual Conference, Surrey University, Guildford

Monday June 26th 2017 ISSIG Northern/Midlands Conference - Repton School, Derbyshire

Wednesday June 28th ISSIG Southern Conference -Charterhouse, Godalming, Surrey

Executive Committee, August 2017 venue tba

Committee meeting, November 2017 in London

This year will see an expansion of the ISSIG Conferences that replaced the Oxford Conference. A new conference will augment the existing conference at Charterhouse with a similar programme and be held in a school in the North Midlands to allow easier access for all schools in the North and Midland regions. Places for the conferences will be available to book via the Geographical Association website in the next few weeks. We will have speakers talking about the use of GIS in the non-examined assessment, Water and Carbon cycles, Global Governance and Changing Places at both conferences.

Further details will go out to schools after the Easter holiday.

Further information about the Geographical Association's Independent Schools Special Interest Group can be found at

http://geography.org.uk/getinvolved/committeessigs/independentschoolssig/

The Twitter feed is @GA_ISSIG

The deadline for submission for articles for the next edition of Notes and Queries published in September will be 30th August 2017.

Submissions should be sent to robmorris8@gmail.com