

CABAN

JUNE 1951



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THE MAGAZINE OF THE OAKELEY AND VOTTY SLATE QUARRIES

CABAN

THE OAKELEY SLATE QUARRIES CO. LTD.,
THE VOTTY AND BOWYDD SLATE QUARRIES CO. LTD.,
BLAENAU FFESTINIOG, NORTH WALES,
4 OLD MITRE COURT, FLEET STREET, LONDON, E.C.4.

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"CABAN" is the name of the type of mess-room in which the men of Oakeley and Votty meet for their meal-break... and which is also the centre of social life and passing of information throughout the quarries, hence the title of this magazine.

Front Cover: A train load of blocks on the way to slatemakers

Below: Dressing roofing slate



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"ROYAL and ANCIENT" Craft of Slatemaking



A "Royal Flush!"

MENTION in Welsh of "narrow ladies," "wide viscountesses," "small duchesses," or of "princesses," a "marchioness," perhaps, and certainly of "countesses," comes naturally to the tongue of the rawest beginner being tutored to the job of slate dressing.

Tradition and custom, factors which figure considerably in the workaday affairs of our industry, continue to mark the ancient craft of slate making, giving it, among other distinctions, a picturesque glossary of trade terms to denote the standard gradations in slate sizes.

From times long past the slate makers have adopted the female of the species in their table of precedence thus, at the head of the list, we have the "queens," representing the largest roofing slates of 30 inches in length or more. There are many other gradations, most of them "titled" and descending in the social scale. Beginning with "empresses" (26in. x 16in.) they continue through the

"purple" via the "princesses" (24in. x 14in.) and "duchesses" (24in. x 12in.) to the "small duchesses" (22in. x 12in.), "marchionesses" (22in. x 11in.), the more familiar "countesses" (20in. x 10in.) the "wider viscountesses," the "viscountesses" themselves, and the group of "ladies," wide and broad and just "ladies," ranging from 16in. x 10in. to 16in. x 8in.

Each one a Challenge

After them are the "headers" (14in. x 12in. and 14in. x 10in.), the "small ladies" (14in. x 8in.), and the "narrow ladies" with a girth one inch less, and so on through lesser sizes down to "units" (10in. x 6in.).

The "units" usually are produced by the up-and-coming lads making good at their apprenticeship. There are smaller categories for dampcoursing also produced by apprentices.

The standard range of roofing products is closely graded in length and width, and each finished slate in each of the categories, ere it is stacked in the bays outside the mills, has constituted a challenge to the slatemaker's ability to make the most from the material he has available.

The pursuit of perfection in production stressed in a previous account of the rockman at work, is fundamental to success in the craft of slatemaking. Not all that glitters is gold, nor will all the blocks that reach daylight from the mines make "princesses" or "duchesses," but it is axiomatic, under the traditional contract system operating at Oakeley and Votty, that the quarrymen in each contracting unit aim always to produce the largest standard slates.



The Slab Arrives.

Assessing the Potential

Rockmen fashion their blocks as near as possible to given dimensions. Before leaving the chambers for the mills above ground the rockmen have measured the potential in each block with their practised eyes. Width, depth and the character of the cleavage tell them approximately the size and number to be expected from the more productive bulk

of the block. The rough calculation is carried through to the narrower end of the block. Their slatemaker partners in the mill, even more experienced in assessing the "potential," proceed by means of careful "quarrying" to break down the block to manageable proportions compatible with the required maximum dimensions for splitting and dressing. When the day is done

Sundered!



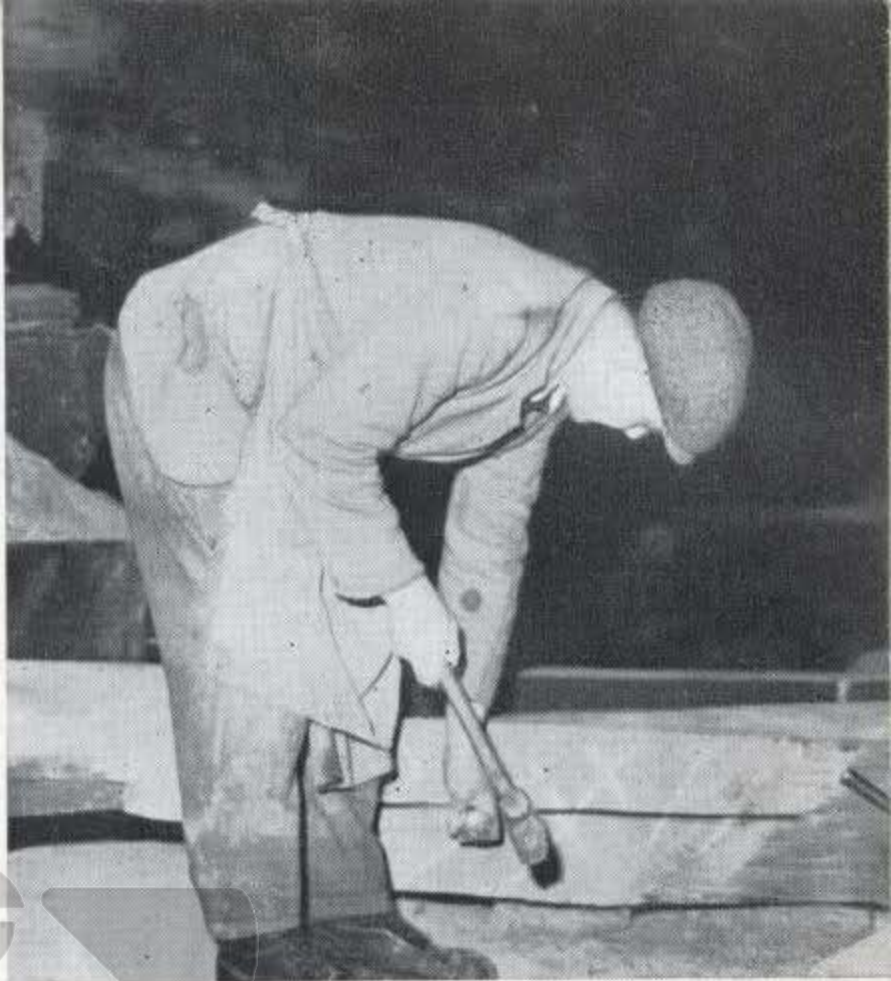
the two rockmen partners visit the mill to help stack the output and to compare notes. It is rarely that the estimate taken at a glance in the half-light of the chamber below ground is not realised in fact when the time comes in the late afternoon to count the stack of new slates.

Finesse

A large proportion of rockmen have been slatemakers, though not all slatemakers have been rockmen. The broad basis of their work is similar; the rules to be observed in the manipulation of the rock is identical, the difference is in the scale and the finesse employed.

Some slatemakers are born; others attain proficiency, but all work towards the supreme objective—maximum production with a minimum of waste. The “born” slatemaker works always with the double object in view, devising and contriving, fashioning and producing, with the delicacy of an artist.

All beginners at Oakeley and Votty have equal opportunity of achieving proficiency. In the old days a boy wanting to learn the trade would offer his services to a craftsman as a helper. If accepted the boy would be attached to the craftsman who would do his best to pass on his knowledge and skill to his pupil. Nowadays, a school-leaver starts at the beginning of the “quarry month”—the traditional cycle of the quarry-



Separating on the Cleavage.

man's contract and the boy's first experience of ancient custom and rule in the industry.

He enters the training mill at the Middle Quarry Bank at Oakeley, where he is placed in contact with other boys already in the several stages of advancement.

The 'prentice hand

Such a boy might be Robert Evans, now a six months apprentice, who is pictured on another page holding the

Blocks, Chisel and Knife.



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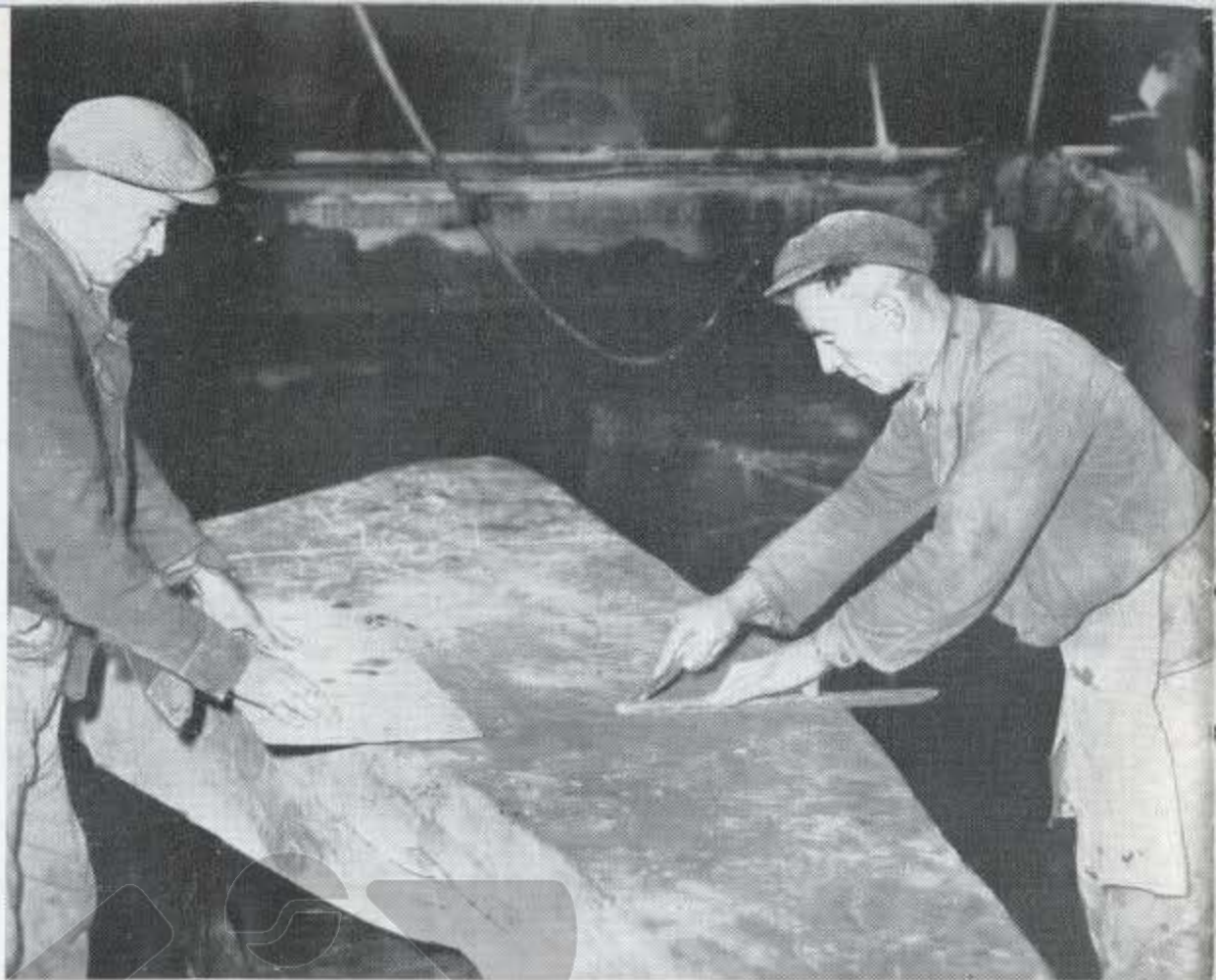
three tools which will serve him throughout his career as a slatemaker—a mallet, a splitting chisel, and a gauge chisel. He has been taught with these three implements to measure and break down the biggest block and split from the product of his own deftness roofing slates of every size and quality.

Young Robert, who is not yet sixteen, has been learning the fundamentals—how to find the cleavage of the rock, to detect the line of the pillar and, having got these right, to hold the mallet correctly and to keep the splitting chisel square with the cleavage before striking the tell-tale blow. Having broken down the block into sections of appropriate size, he must then prove mastery of the gauge chisel which measures thicknesses. A mental calculation should give him the estimated output of each of his small blocks. It is then that he prepares to meet the challenge, to prove his progress in combining eye, hand, chisel and temperament in splitting slates of equal thickness, first in halves, then quarters, eighths and sixteenths.

Practical Encouragement

After leaving school the apprentices practise their skill on odd pieces or blocks which have been gleaned in the production mills. Every boy has a relative or friend in the quarry. A "helping hand" is often extended in the

Diamond Cut Slate.



"Diamonds" for the "Duchesses."

form of a sizeable and workable block upon which a promising boy can extend himself even to the production of an occasional batch of "duchesses" or "countesses." The dressed output derived in this way is later reflected in the boy's wage packet—another practical form of encouragement.

Another picture shows Robert Evans actually engaged with "plug and feathers" on one of these gifts from below. He reckoned that the block would give him two full days' work—and a wealth of new experience.

Emphasis on Quality

At Bonc Coedan, Bonc Shafft and the other mills, the blocks come forward in steady rhythm. The succeeding operations, swiftly and expertly carried out, appear routine—which, perhaps, is as it should be. John Gwilym Jones and Edward Jones, slatemakers and dressers alternately as the spirit moves them, are seen in other illustrations demonstrating part of this routine. First there is the big block, or slab,—in this illustration it is from "P" 1—which, being of fairly even thickness and good average width, is bespoke for the higher category slates, "princesses," "duchesses" and "countesses."

The rockmen partners of the slate-makers had already bored a pillaring hole, and John Gwilym Jones lost no time in inserting plug and feathers to split the slab lengthwise in exact halves. That accomplished, he split along the cleavage of the sundered parts to produce four slabs of like thickness. These, in turn, were taken to the sawing table and reduced to the required lengths. Quality is a considerable factor in dividing lengths and assessing quality is of necessity one of the chief tests of the slatemaker's skill. The eye and the ear, fortified by considerable experience past and present, and including knowledge of the actual rock in the chamber, are the guarantees against error.



His "Tools of Office"

Continuous Process

The neatly sawed blocks are again split along the cleavage to give an average thickness of sixteen finished slates. They are laid in line alongside the slatemaker's bench, a new consignment in the continuous process of slatemaking. Partner number two in this combination will have been splitting slates from a previous supply of blocks while his colleague worked down the new block and prepared the new consignment of "raw material." They change places, the one standing to "dress" the split slates on the long knives of the revolving cutter, the other to squat characteristically before an

electric fire, hammer and chisel poised and clasped in the particular manner of the trade, and then to tap with mathematical precision along the all-important cleavage, thus to divide the block into further perfect roofing slates of exact quality and thicknesses. The light and sure taps with the mallet drive the chisel into the slate to a pre-determined depth—so far and no farther! A deft twist of the wrist and the chisel becomes a lever, accelerating the cleavage, widening the split, and finally dividing the block into two, and so on.

Visitors are fascinated by the swiftness

... two days' work

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and accuracy of the operation. Commenting on this, one slate dresser philosophically explained as he clip-clopped 'small duchesses': "What puzzles the visitors is that the slate splits without shattering. I felt the same way when I first saw an expert glass cutter at work on my greenhouse—a sharp, sure stroke with the 'diamond,' a flick of the wrist, and there was the perfect square of glass. He told me his secret was confidence and concentration. It is much the same with slate splitting, except that slate is not as constant in shape and quality as manufactured glass. We have to take account of visible and hidden defects; these are the snags. One might sit here for ever and not overcome them all."

Aiming High

One of the "snags" encountered in the daily routine may be that the rock is especially hard. To pillar and split by ordinary methods a block in this category would be difficult. Instead, it is placed under a diamond-toothed saw which carves up the block into sections. Here again the operation is governed by the size and quality of slates to be extracted. The intent business of measuring up a block placed in readiness for the diamond

saw at Bonc Shafft, Oakeley (Votty, as we have illustrated previously, has an even bigger saw), is graphically shown in our photograph, showing two of the mill men "aiming high," as is the practice, marking out "duchesses." After the "duchesses" they sought "countesses," the maximum possible amount, and proceeded down the scale until the potentialities of the block had been fully analysed and marked off. Then the powerful "diamond" was put to work. The resulting blocks were transported to the slatemaker's place in the mill, damped down and covered with moistened hessian until required for splitting.

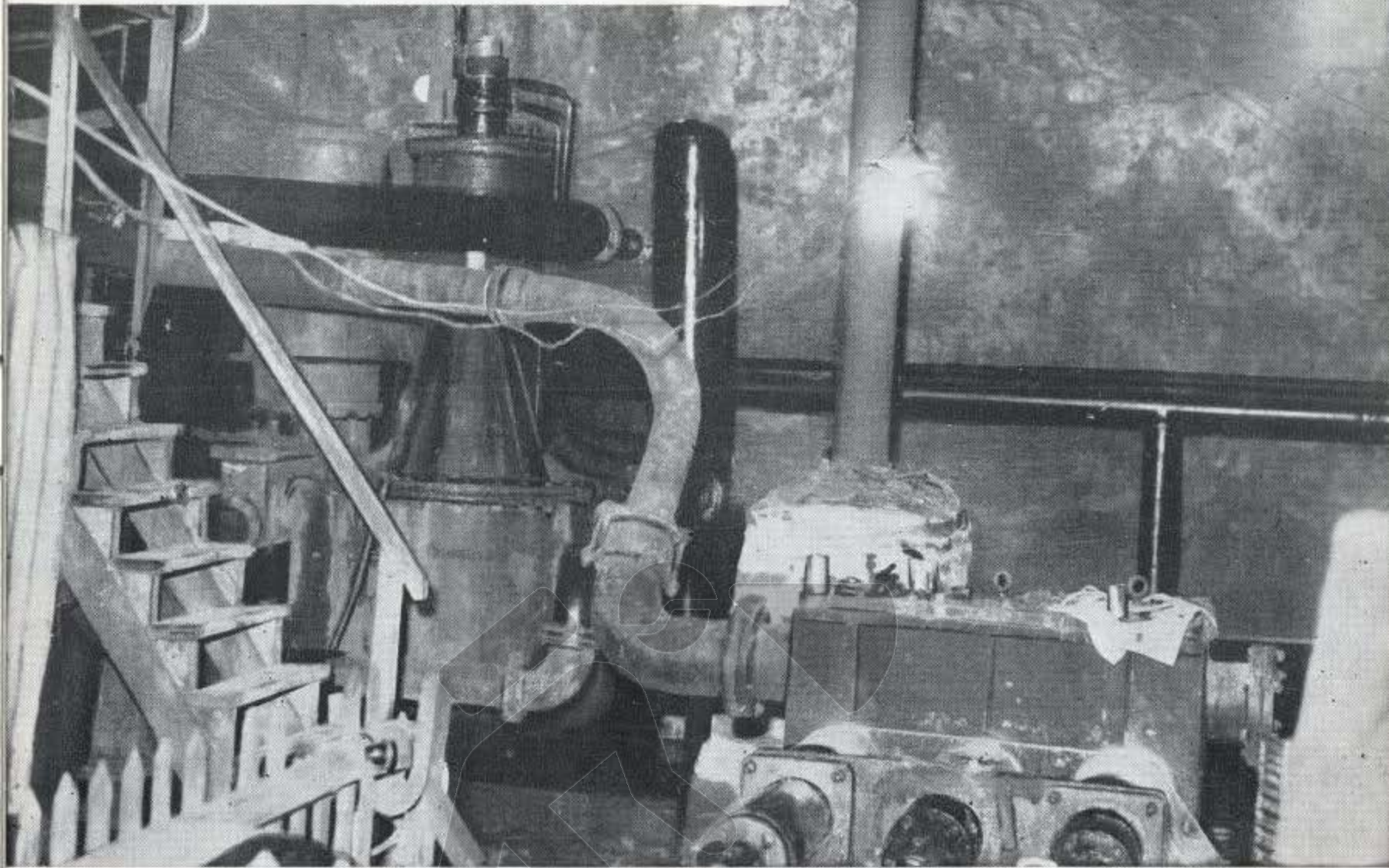
Diamond or Mallet

Different men, differing ways. Some prefer the diamond saw because of the fine edge it leaves; others like the normal routine; some, to avoid sawing a long block after cleavage, will pick up a giant mallet, known as "rhys," and with one or two hefty strokes against the side and near the end of the portion to be severed will break the slab as easily as one would crack a biscuit. The secret of success in this apparently simple device for securing blocks quickly is knowing where to hit and how hard to hit.

"Rhys" Mallet in action.



“Keeping out the rain”



Hydrostat Pump

VOTTY HYDROSTAT

has unique features

TH**ERE** is nothing very romantic about a pump. We all see them, or hear them, doing their job of work de-watering the mines, playing their parts continuously and effectively in the task of flood prevention.

Situated as we are in a mountainous area, where the average rainfall totals about 100 inches a year, the question of “keeping out the rain” assumes quite an important place in mine management and development.

There are various and orthodox ways of tackling this, but none, we venture to suggest, quite like that which is carried out at Votty, where, at the giant hydrostat station on “D” floor, we have turned

the tables on Mother Nature by using the rainfall itself to assist in de-watering the mine.

Biggest in the Country

Installed shortly before the war in a worked-out “new vein” chamber, some sixty feet below the mine entrance, the hydrostat pump—the biggest ever produced in this country—is capable of lifting 1,400 gallons a minute to the delivery point in the entrance level above it.

The motive power is a powerful “head” of rain water piped down to the machine from “Llyn Votty,” the water-filled old workings in the open, exactly

203 feet above it. Thus, by the skilful use of one commodity it tackles two problems—drainage of the mine and the control of the “Llyn Votty” reservoir.

The accompanying “Caban” photographs give a good impression of the size of the hydrostat.

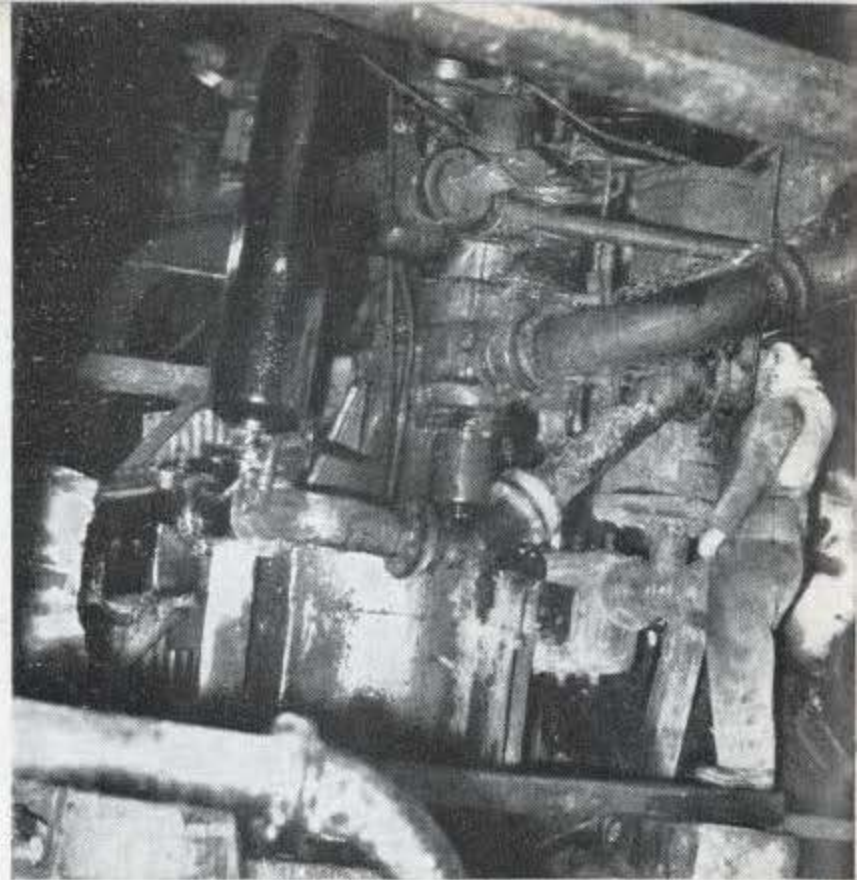
De-waters by Rainfall

For the interest of more technically-minded readers we add the following expert description of the pump. The hydrostat is a water-actuated reciprocating machine consisting of motive cylinder with piston, pumping cylinder with plunger, distributing valve and the usual pump suction and delivery valve box. The operating water is directed to alternate ends of the motive cylinder, and thus the load of the head of water is transmitted to the plunger. The pistons execute about six double strokes a minute but can be set to operate at any lower speed with practically no loss in efficiency. The Votty hydrostat raises 200 gallons per double stroke, plus 50 gallons of the motive water required to operate the machine, against a delivery head of 55 feet.

The distribution of the operating water to the two ends of the motive cylinder is effected by the distributing valve which is itself moved hydraulically and controlled by the pilot valve. As the large piston nears the end of its upstroke it raises the push-rod and thereby, also, the pilot valve, whereby water under full head of 157 lbs. is admitted to the underside of the distributing valve, raising and holding the latter in its upward position. Thus water is admitted to drive the main assembly downwards whilst opening up the underside of the motive piston to exhaust.

Valve Mechanism

At the lower end of the stroke the push-rod is moved down, depressing the pilot valve, closing off the operating water to the distributing valve, but making it free to waste and the valve falls under its own weight. The weight is made approximately equal to half the



Powered by rainfall

hydraulic load of the fall height, so that equal force is available to move the valve, which is otherwise balanced, in either direction of movement.

The pumping cylinder functions in a manner similar to a double-acting plunger pump. The pump cylinder is 40 inches in diameter. The diameter of the motive cylinder is 24 inches. Starting and stopping are automatic by means of a float-operated control valve on the motive water inlet pipe. There is a vertical distance of eight feet in the sump between start and stop levels.

Delivery end. Double Stroke raises 250 gallons



ON DUTY

—

OFF DUTY

Traditionalist

Geologist

Mountaineer



Using the hand gauge

UNDERLINING ancient characteristics in the craft of slatemaking, we have the apt example of bespectacled Thomas Jones, a slatemaker devoted to the use of traditional hand tools. Working in the open making smaller category slates, Thomas Jones has no recourse to the diamond saw, the rhys mallet nor the dressing machine. He splits, marks and dresses his slates entirely by hand, using simple tools of the type devised when slatemaking first began.

Thomas Jones likes it this way. He began as a "traditionalist," learning the craft and the trick of deftly handling the knife and gauge from an old craftsman in the mountains not far from his own home on Moel Siabod.

Hand Tools

There are not many left in the quarries in this class of handworking craftsmen, and Thomas Jones, who is by way of being a philosopher in these matters, says he is quite content to continue in the tradition. He enjoys the solitude of his open-air working site looking out on the surrounding hills. His reasons are wrapt up in his hobby, which is the study of the mountains and their actual make-up. This passion for the open hills has embraced vistas extending from Moel Siabod to the Matterhorn. The fact is

that Thomas Jones is a geologist in his spare time.

At his home on the foothills near Capel Curig, he has a private museum composed of hundreds of specimens, graded and displayed to illustrate the rock formations, not only of the mountains and valleys of his native heath, but of the Continental Alps.

How Thomas Jones came to spend his spare time roaming the mountains from Snowdonia to the Bernese Oberland, chipping tell-tale evidence from the face of nature, reads very like a romance. As a young man, bred in the hills and in the company of quarrymen, he began reading about slate. It was a step to the study of geology. A natural liking for the hilltops led him to undertake lone excursions seeking to identify the rocks described in his books, and later to take specimens. The hobby grew on him, he says. In the years that followed, during which he had deliberately chosen to take up the old-fashioned tools of the old-fashioned slatemaker, Thomas Jones, with his geologist's hammer and canvas bag, became a familiar figure in the Snowdonian hills.

Climbed Matterhorn

Zeal for his hobby, tracing the phenomena of the actual construction of the

North Wales countryside—the “Ordovician country” of Upper Merioneth, the “Silurian country” of Denbighshire, the “Cambrian tracts,” all signposts in the language of geology—gained him the dual reputation of “guide and philosopher.” His knowledge of the mountains at all seasons of the year was, and still is, highly valued by regular visitors to the area. Thomas Jones became in demand as a mountain guide.

One climber-visitor in whom Thomas Jones discovered a kindred spirit, developed into a close friend. The friendship resulted in an invitation to join an expedition to the Bernese Oberland, to the Jungfrau, and finally to the mighty Matterhorn itself. Thus it was that the slatemaker Thomas Jones, with rucksack and hammer, procured his specimens from the Alpine peaks.

Trimming by Hand

Back to earth, our pictorial studies of Thomas Jones on duty at Oakeley afford striking contrast to the rhythmic,

mechanically-assisted process of slate-making in the mills described and illustrated in earlier pages of this issue.

Having first split his chosen block in the manner common to all slatemakers, we see him using the traditional hand gauge marking a piece of slate preparatory to trimming and dressing. Firmly gripped in the right hand—a piece of notched wood with a metal tooth—the gauge is unerring in the pattern it draws.

In the other picture Thomas Jones demonstrates the characteristic position for wielding the handknife when trimming and dressing the marked slate. The eye and the hand combine carefully in the execution of the cutting movement.

“To me,” says Thomas Jones, “it is like second nature. It is a case of ‘what a man likes doing he usually does well.’” The bayonet-shaped knife harks back to the earliest days of the craft. Like the blacksmith who makes the tools, Thomas Jones, Oakeley slatemaker, amateur geologist and mountaineer, is in these days a rarity in the quarries.

Wielding the hand knife



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Holiday 'Snaps' Competition

AGAIN



BY way of reminder—and inspiration—we reproduce the group of homely snaps which led the field in our holiday photographic competition last summer. Summer, we called it! It was, in fact, one of the worst seasons in living memory for the amateur photographer.

The holiday season is now upon us, and we all must feel that while it could not be worse than last year it might easily be better, so pick up hope, and when out and about, *take your camera*. Our competition is round again. The prizes will be: £1 for the first; 15s. for the second; 10s. for the third.

This is Festival year—in London, Liverpool, at the National Eisteddfod, Llanrwst, down at Deildre and Dolhendre—in fact, all around us special events and happenings are scheduled to add incentive to the fascinating pursuit of holiday subjects and impressions worthy of recording in the snap album. Simple, homely subjects often yield the best and most pointed results. If the picture is associated with a holiday memory, so much the better. Beauty, action and spectacle have their attractions, too, both from the pictorial and the judges' point of view.

Entrants may send in as many subjects as they wish. The only stipulations are:

Please write, in pencil, name and address and subject of the picture on back of each print. Entries should be handed in at the quarry offices before August 31.

In addition, we renew our offer of £1 for the best holiday essay or story. The subjects are open, may be written in Welsh or English; they may be descriptive of a scene, an experience, or an event, or humorous, but the article should not exceed 700 words. The closing date is again August 31.—Ymlaen, chwarelwyr!



OAKELEY AND THE FESTIVAL



THE FESTIVAL of Britain is on! By the time this appears Merioneth's contribution, the exposition of modern hill-farming at Dolhendre, will have been opened. Will Oakeley and Votty slates play a part in the Festival? They will, but not behind

the gay whimsicalities of the South Bank. They are due to appear in a practical role, to fulfil one of the main purposes for which we make them—the lasting protection of people's homes.

Down river, adjoining London's dockland, in the boroughs of Stepney and



Poplar, is an area that suffered grievously from bombing during the war. Over a site of thirty acres rebuilding by the London County Council is under way on modern lines that will produce a neighbourhood vastly different from that of the one-time huddle of streets. Part of

this project, the neighbourhood to be known as Lansbury (after George Lansbury, who spent his life in Poplar), has been taken as the basis of the Festival of Britain "Live" Architecture Exhibition, directly linked by water bus with the South Bank Exhibition.

(Cont'd on pp. 16, 17)

(Top)

Another view of the Harlow "new town" scheme

(Top)
The Festival Spirit comes to East London—

"The Rosie Lee" Cafeteria at the Poplar Exhibition

Oakeley slates at the Harlow, Essex, new town development



FESTIVAL FEATURES—(continued)



Harlow Homes, finished appearance

Much of the "Live" Exhibition will be under construction during the Festival, and in particular, so far as we are concerned, a section on which Oakeley slates are to be fixed by our friends, Messrs. J. H. Sankey & Son, Ltd., to the specification of the architects, Messrs. Norman and Dawbarn, F.R.I.B.A.

Oakeley Slates are there

Town planning will form a feature of the exhibition, and the attention of visitors will be directed not only to Lansbury but also to some of the new towns now being built. One of these, where Oakeley slates can be seen, is at Harlow in Essex. Supplies for the first blocks to be ready there were sent some time ago, and there are, of course, more to be completed, but a special effort was made for two sections, which it was particularly desired to have roofed before

a "Festival" opening ceremony. These two groups of houses are illustrated here. They were not quite ready for occupation when the photographs were taken, but our picture of a similar block nearby reproduced above shows the finished appearance.

Pleasing proportions

With plain and simple roofs like these, not only has the architect to obtain the pleasing proportions which he has here achieved, but the colour and texture of the material must maintain the effect. It cannot properly be shown in the photographs, but having visited the site we feel (naturally perhaps, but quite genuinely) that our slates most effectively do this.

Mr. Frederick Gibberd, F.R.I.B.A., M.T.P.I., Architect and Planner to the Harlow Development Corporation (by

whose permission we reproduce the photographs), is responsible, and again the roofing contractors are Messrs. J. H. Sankey & Son, Ltd. The main contractors are Messrs. George Wimpey & Co., Ltd.

The accent is on the Festival now, but after all what is so satisfying is that our slates will thus not only play their part at this time, but will continue on the job long after the shouting has died away, when the great Festival is but a memory.

Festive Spirit

From the new to the old. We have

just met another order for a quite different purpose which is worth recording here. Partly, we understand, because this is "Festival Year" the house at Hampstead, in which John Keats lived for a time, is to be repaired and the roof structure needs attention. We have sent the slates required to the London Slate & Tile Roofing Co., who have been entrusted with the re-roofing.

If it was indeed there, as is said, that the poet was inspired to write "To a Nightingale," how we are reminded of the changes of the last 130 years by the final lines:—

*Adieu! adieu! thy plaintive anthem fades
Past the near meadows, over the still stream,
Up the hill-side; and now 'tis buried deep
In the next valley glades:
Was it a vision, or a waking dream?
Fled is that music—do I wake or sleep?*



Keats' house at Hampstead

The Origin of Slate—2

Continuing the geologist's story, based on "The Slates of Wales," by permission of the author, Dr. F. J. North, Keeper of the Department of Geology in the National Museum of Wales.

WE come now to the varying types of rock that may be formed from the mud deposited by the processes outlined in our previous article.

If in any one area the general distribution of land and sea remains unchanged for a considerable time while the sea floor slowly subsides, the deposits of mud, sand and whatever other material may be accumulating increase in thickness until the earlier layers are deeply buried beneath those laid down upon them. In this situation they are subject to the relatively high temperature which obtains in the deeper parts of the earth's crust, and to pressure due to the weight of the overlying strata.

In dried mud or a recently-formed clay deposit the individual particles vary in shape, are not arranged according to any particular plan, and enclose between them a considerable amount of space. This is illustrated diagrammatically in Figure 3A. (It is because the individual spaces are exceedingly small that clay is almost impervious to water.)

Packed Clay Particles

When clay is subjected to moderate pressure, due to the weight of strata subsequently deposited upon it, the particles are packed more closely together and flaky ones that may be present tend to take up positions with their

flatter surfaces more or less horizontal, as indicated in Figure 3B. Then, when subsequent local uplift of the earth's crust causes the sea floor to become dry land, and the processes of denudation result in the exposure of the once-buried sediments (see Figure 2 in our previous issue) the clays will no longer be soft and plastic, but will appear as a rock-like mudstone or shale.

Mudstone may be described as hardened clay with no tendency to split in a particular direction. The rock will be shale if it has the type of structure shown in Figure 3B., formed as described above, and hence tends to split into sheets along the lines of the flatter surfaces of its flaky particles. This splitting of shale, produced by the pressure due to the weight of overlying strata, is an entirely different thing from the cleavage of slate. (The "slate" associated with coal seams is really shale.) Suitable deposits were changed eventually into slate by a further and more complicated combination of forces, producing chemical as well as mechanical changes.

Earth Movements

In the great earth movements that built mountain chains and altered the distribution of land and sea, rocks that accumulated in horizontal layers were squeezed, thrown into folds, fractured and sometimes displaced. As a result of

the pressure thus developed particles were squeezed more closely together, and in some cases were slightly flattened. Particles of a flaky nature took up new positions again with their

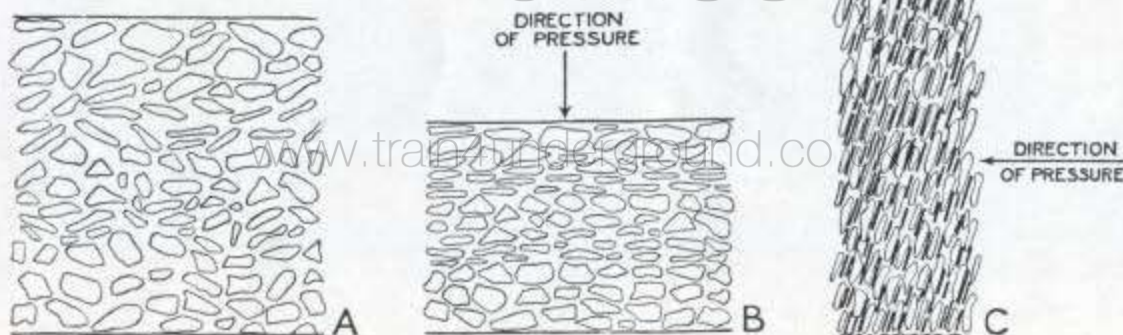


Fig 3.

flatter surfaces more or less at right angles to the direction of pressure, as shown in Figure 3C.

When closer packing of the particles was no longer possible, the squeezed mass was compelled to change its shape, becoming, since the pressure was acting more or less horizontally, narrower from side to side and thicker from top to bottom. This was accomplished by the particles moving away at right angles to the direction of pressure, and this process further facilitated their orderly arrangement with their flatter surfaces all lying in approximately the same direction. The material was not only thus compressed, but was subjected to considerable heat. There was the heat generated as it were as an effect of the considerable compression in addition to that due to the temperature of the earth at the depth at which the sediment was then buried. (At the present time as far as observations have been made, temperature increases with depth at an average rate of 1° Fahrenheit for every sixty-four feet.)

Pressure and heat

The combined action of pressure and heat caused the constituents of some of the very minute particles to interact with one another, giving rise to minerals that were not present as such in the original sediment. In particular, very minute flakes or lath-like crystals of mica were developed. Since crystals tend to grow most freely in directions where they encounter least resistance, most of these mica crystals took up positions

comparable with those of the particles which, remaining chemically unchanged, were rotated and arranged with their flat surfaces facing the direction of pressure, Figure 3C. The mica crystals were very small; in the best Welsh slates they average about 2,000 to the inch in breadth, and 6,000 to the inch in thickness.

The original material has thus been almost entirely rearranged, and to a large extent reconstituted. The result is slate, with its characteristic cleavage and transverse strength. The overlapping of its component particles after the manner of the scales of a fish is responsible for the cleavage, while the close association that exists between the crystalline constituents determines the transverse strength. A sheet of shale, for instance, is much more easily broken than a slate of similar dimensions. Many of our readers will have seen thin strips of Ffestiniog Old Vein which bend to a considerable extent without breaking.

These natural processes can be overdone. Too much pressure, a change in its direction, too much heat, will produce characteristics undesirable from our point of view, or even result in a completely crystalline rock, not slate at all. However here and there, and notably in North Wales, the right combination of conditions has prevailed to produce slate rock of such even structure that man has been able to take it from the hills and fashion it into a permanent natural covering for his buildings, staunchly protecting him from the weather that indeed was one of the primary agents in its making.

To be continued

Going back

Many of our readers will remember Captain J. N. More, who was in charge of the old Portmadoc office before going up to London. Our recent extracts from Samuel Holland's diary have brought a letter from him.

He remembers Mrs. Holland, from whom his father leased a house at Harlech, and recalls that she was much younger than her husband. She was

reputed to have been a great beauty in her youth, whereas Sam. Holland was, shall we say, unprepossessing.

This house, "Noddfa," was built by Samuel Holland as a sort of convalescent home for quarrymen, and at that time there could still be seen the remains of a narrow-gauge tramroad on which they could travel by horse-drawn train to the beach.



W. H. Jones, Oakeley Under-Manager.

WILLIAM H. JONES, assistant manager at Oakeley since 1948, traces his career not only through the dual phases of slatemaker and rockman but also as a miner—a further and vital branch in the make-up of the “complete quarryman.”

Beginning, like many others, as an apprentice slatemaker, and liking it, William H. Jones decided to learn about the industry literally from “rock-bottom.” It was thus he became a miner. Having mastered the meticulous business of “driving, roofing and widening,” and the numerous ancillary jobs labelled “mining,” he moved into chambers he had helped to open to work as a rockman. A rockman he remained for many years, his experience widening as developments proceeded. The experience gained of the various quarrying and mining occupations proved invaluable and befitting when the time came in 1936 for him to be appointed a member of the quarry staff. Still learning, as he says, and benefitting particularly from association with the older skilled members of the staff, William Jones graduated in 1948 to the post of assistant manager.

Our assistant manager is married, with one daughter, and on June 8 this year

celebrated his silver wedding. His hobbies include fishing, poultry keeping and reciting at eisteddfodau. In both the former pursuits he has acquired patience. In the eisteddfod he has learned to win and lose.

YR HOGWR—the sharpener—is all-important in the mills. The actual sharpening is done by automatic machine, but the equally important setting of the teeth is best done by hand. The slatemaker depends to a great extent upon the efficiency of the man deputed to sharpen his tools—particularly the saws. John Roberts, whom we see portrayed in typical attitude, with left hand delicately poised just behind the point at which the rhythmic hammer stroke will fall, has been sharpening saws at Bonc Shafft Old Mill for more than fifty years. Watching him at work it seemed a matter of moments while John Roberts “rung the changes” on the 120 teeth of the hard steel saw.

The speed and dexterity of the operation is the product of his many years experience, and the secret—unerring timing.

In slow motion it is seen that the hammer blows fall on alternate teeth, bending them exactly to the required dimensions. His steady left hand revolving the saw and bringing the ap-

John Roberts—“Yr Hogwr”.



BETWEEN
Oakeley
WHO'S

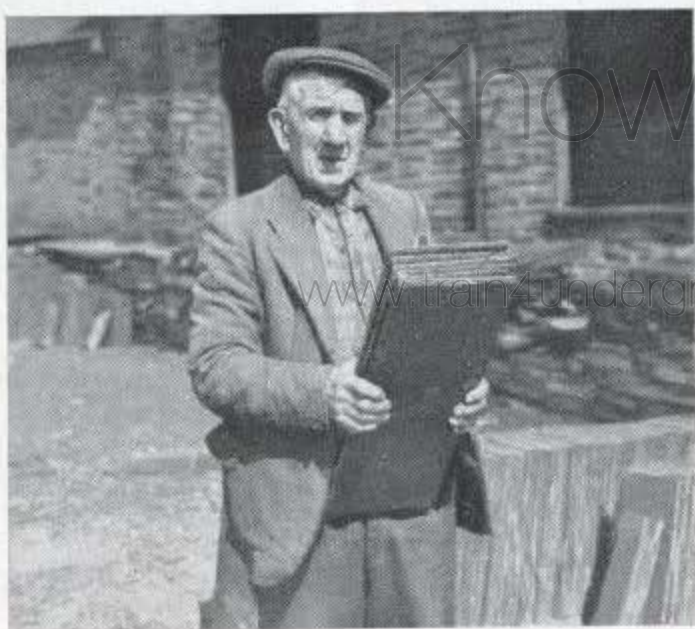
propriate tooth to the exact position for receiving the hammer blow is a triumph of co-ordination and accounts for the fact, as John Roberts told us, that he has "never missed in fifty years."

JOHAN HENRY WILLIAMS, under-manager at Votty since 1948, has been 30 years in the industry, starting at Croesor as a slatemaker in 1921 at the age of fourteen-and-a-half years. He followed in support of a strong family tradition and had a "bargain" of his own at the age of eighteen. When this quarry stopped he moved elsewhere in the industry and eventually joined us at Votty in 1942 as a rockman. After three years in this capacity he took up slatemaking again, and in February, 1948, was appointed undermanager.

John Williams lives at Penrhyn-deudraeth, where, as readers of *Caban* will recall, he makes a speciality of bee-keeping. The hard weather of the prolonged winter has cut down the hives

from ten to seven. Another activity which identifies our undermanager is a close association with the fortunes of Gorffwysfa M.C. Church at Penrhyn. John Williams has been nominated deacon of the chapel and is due for ordination at the Cyfarfod Misol in June.

"Morsen" Roberts, Votty.



John H. Williams, Under-Manager, Votty.

MMORRIS (Morsen) ROBERTS, who has been labouring underground at Votty since 1931, is one of those cheery native wits who makes the daily round worth while in any company or capacity. A quarry "character," he has a long and varied career, starting as the driver of a "four-in-hand" on the Portmadoc-Beddgelert route. His love of horses led him to the mines in South Wales, where he moved around following the occupation of haulier. Then came the interlude of the 1914-18 war, which sent him overseas with the 6th Battalion R.W.F. He served with the regiment in the Palestine campaign as far as Gaza, where a Turkish bullet in the leg called a halt as far as he was concerned. After hospital treatment at Heliopolis, Morsen was posted a guard over prisoners of war near Cairo.

After the war he sought out work with horses, but motor competition was too great and he turned to the quarries. With the exception of one day in May—the day we met him and photographed him—Morsen has worked an unbroken period of twenty years underground at Votty.

OURSELVES
Votty
WHO

THE LUCKY NUMBER WAS SEVEN!

Ten "Quarry Queen" candidates face the Judges at Rhiw Chapel Concert, March 15



Holder of lucky number is Eluned Evans, who was chosen Quarry Queen-elect. (See News Exchange for full report).



www.train4underground.co.uk
Oakeley Quarry Choir take the Stage



All smiles, Eluned Evans receives award



from Miss Gwenan Lloyd Humphreys



Section of the audience at the concert.

... News Exchange ...

Hanes y Côr

DIOIACHWYD i Gôr Meibion Chwarel Oakeley, a'u harweinydd, Mr. T. O. Thomas, gan Mr. William O. Williams, y cadeirydd, yng nghyfarfod blynyddol y côr nos Sadwrn, Ebrill 7.

Erfyniodd Mr. Williams ar y côr ddal ymlaen â'u gwaith da yn y flwyddyn i ddyfod, ac i fod yn selog yn eu cyfarfodydd. Bu'r côr, meddai, yn ffortunos i gael yn Mr. Thomas arweinydd gweithgar a dawnus, sydd yn meddu'r ddawn o ddisgyblaeth yn ogystal a'i allu ym myd cerddoriaeth.

Cred y cadeirydd y dengys y flwyddyn yma ffrwyth llafur nosweithiau y gaeaf.

Yr oedd 27 o aelodau'r côr yn bresennol, a rhoddwyd y sefyllfa ariannol gan Mr. Hugh G. Jones, y trysorydd. Diolchwyd yn unfrydol i Mr. Thomas, ac hefyd i Mr. John Ll. Williams, y cyfeilydd, am eu gwaith parod a gwerthfawr.

Etholwyd y swyddogion a ganlyn am y flwyddyn: Cadeirydd, Mr. W. O. Williams; trysorydd, Mr. H. G. Jones;

ysgrifennydd, Mr. John O. Williams; pwyllgor, Mri. David Lewis, William Jones, David O. Jones, David J. Williams a Mr. David G. Owen.

Yng Ngwytherin

Cafwyd noson ddifyr a swynol dros ben yn y cyngerdd a gynhaliwyd gan Gôr Meibion Chwarel Oakeley yng Ngwytherin, ger Abergele, nos Sadwrn, Chwefror 24.

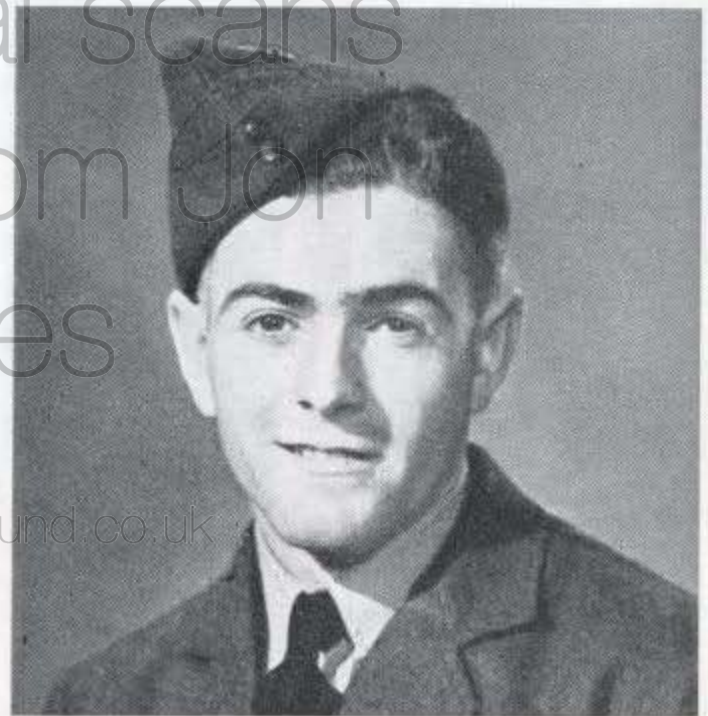
Yr oedd y côr dan arweiniad Mr. T. O. Thomas, L.R.A.M., mewn llais da. Canasant chwe gwaith a chawsant gannoliaeth mawr am eu cyfraniad.

Bu derbyniad llawn mor wresog i'r unawdwyr, sef Mrs. Hilda Evans, soprano; Mr. William Morris, tenor; Mr. William Roberts, sydd a chysylltiad llawer blwyddyn a chwarel Oakeley; Mr. Meirion Jones, baritone, a Miss Elliw Roberts, adroddes. Dangosodd y gynulleidfa eu gwerthfawrogiad trwy fynnu "encore" gan bob un.

On National Service

Thomas John Jones, of Bethania, who worked in the New Mill, Bone Shafft, and who left last year to serve in the R.A.F., sends us this happy picture of himself with good wishes to all his colleagues. We join in the echo of those good wishes from the Mill, knowing that he will continue to do well.

Another who left the New Mill for the services about the same time is Verney Jones, Tanygrisiau. He has chosen the Royal Navy, and says he has chosen well. Good luck wishes are extended to him, also.



Thomas John Jones

Clwb yr Oakeley

Cynhaliwyd y cyfarfod blynyddol nos Fawrth, Mai, 8, 1951, o dan lywyddiaeth Mr. H. Griffith Hughes.

Darllenwyd a chadarnhawyd cofnodion y cyfarfod blynyddol blaenorol. Yna galwyd ar y trysorydd, Dennis



R. D. Williams

Jac Llan

DYMA ddarlun o un o *landmarks* ein hardal tua 50 mlynedd yn ôl. Ganed ef ym Mryntirion, Pantllwyd, yn 1854. Enwau ei rieni oedd John a Chatherine Jones. Yr oedd ei dad yn greigiwr yn chwarel y Rhiw, a chafodd ei ladd trwy syrthio "dros y dyfn." Ail briododd mam Jac gyda William Jones, sef brawd i'w dad, ac aethant i breswyllo i'r Barics, Llan.

Gallai Jac chwibanu fel aderyn, a chwibanu alawon Cymru ar hyd y dydd, hefyd yr alawon Seisnig "Monte Carlo" a "Death of Nelson." Yr oedd yn bencampwr am drin y cleppars gyda'i ddwy law. Gwisgai gôt goch fel milwr, a honno wedi ei haddurno â llawer o fedalau. Addurnai ei het â phlwgwynion, ac yr oeddynt mor werthfawr yn ei olwg a "Phlu Tywysog Cymru." Byddai yn cerdded ar y blaen i bob gorymdaith a fyddai yn ein hardal, a phawb yn falch o weld yr hen gymeriad diniwed a gonest.

Distawodd sain ei gân a thawodd swm ei gleppars, a bu yn gorwedd yn wael ym

Roberts, i ddarllen y fantolen, a sylwyd fod y sefyllfa ariannol yn parhau'n foddhaol.

Yn dilyn, rhoddodd Edward Jones, llywydd y pwyllgor gweithiol, amlinelliad o hanes a gweithgarwch y clwb yn ystod y flwyddyn a aeth heibio, ac ar ran y pwyllgor diolchodd am bob cynhorthwy a chefnogaeth a gafwyd drwy gydol y tymor.

Etholwyd y rhai a ganlyn yn swyddogion ac aelodau o'r pwyllgor gweithiol am y flwyddyn 1951/1952:

Llywydd: Syr Charles Oakeley.

Is-Llywyddion: H. Cutts a H. Griffith Hughes.

Ysgrifennydd: R. D. Williams.

Trysorydd: Dennis Roberts.

Is-Ysgrifennydd: G. Woolford.

Pwyllgor Gweithiol: J. O. Williams (Cadeirydd), Edward Jones, Hubert Lewis, D. G. Jones, T. Hughes Jones, Thomas Hughes, G. W. Humphreys, Humphrey Morris, Ernest Jones, H. G. Jones, Dewi Lewis, W. L. Owen, David Hughes, Richard Jones, Thomas Roberts, Trevor W. Davies, J. E. Jones, Humphrey Lewis, Robert Thomas, John Evans.



Mhenrhyndeudraeth, ac yno y bu farw yn 1915 yn 61 oed.—(J.W.J.)

Bonc Coeden, 1910

WE offer below another glimpse into the past. In our last issue we harked back fifty years with an original picture of a "C" Mill group. On this occasion we stir the memory with a picture of a Bonc Coeden group at Oakeley taken in 1910.

We have been at pains to identify each one in the picture, and here is the list of worthies, reading from left to right,

Front row: Thomas Anthony Hughes, Humphrey Hughes (Cemlyn), David R. Jones, Hugh Edwards (Ty'n Llwyn), Joseph Jones (Beehive), Michael Vaughan, Robert Jones (Drummer), Thomas Williams, David Jones (Crimea), Richard Edwards (Bont).

Centre row: John Anthony Hughes (Picton Terrace), Richard Owen (Bodlas), John Elias Pritchard (Glandwr), Griffith Jones (Gors), Thomas Lewis (Gwyndy), William Hughes (Drummer), Richard Lewis (Bodlondeb), Rowland Evans (Bryn Goleu), William Jones (Gors), William Lewis (High Street), Robert Lewis (Llwythwr), Griffith Parry, (Dolwen).

Back row: Robert Jones (Bethesda), John William Jones (Bardd), William Parry (Tanymarian), Richard Jones (Corris), John Roberts (Ty'n Bryn), Ben E. Jones (Talwaenydd), David Roberts (Llan), William Lewis (Maentwrog), John Williams (Aelybryn), John Edwards (Ty Canol), Thomas J. Jones (Dolawel), Thomas Williams (Tyddyn Dewin), Griffith Williams (Rhydsarn), John Jones (Crimea).



Priodas

Ein llongyfarchiadau a'n dymuniadau da i Kenneth Davies a'i brifod ar achlysur eupriodas ym Mhwllheli, Mawrth 30, 1951.

Creigiwr yn Chwarel y Voty ydyw y priodfab, ac yno mae ei dad, R. E. Davies, hefyd, yn dilyn yr un alwedigaeth.

Joined H.M. Forces

Two members of New Mill, Bonc Shafft, have entered the Forces—Verney Jones, Tanygrisiau, who has selected the Royal Navy, and Thomas John Jones, who has joined the R.A.F.



Cyngerdd Clwb Oakeley

ANAMAL y ceir "brenhines" mewn sêr fawr, ond felly fu yng Nghapel Rhiw, nos Iau, Mawrth 15, ac achoswyd yr amgylchiad gan frwdfrydedd y dorf at y cyngerdd, un o oreuon y tymor, a gynhaliwyd gan Glwb Chwareli Oakeley a Votty.

Trefnwyd fel difyrwch ychwanegol i'r rhaglen bleserus ac amrywiol i gael ysbaid i ddewis brenhines i gynorthwyo y chwareli yng ngharnifal y dre. Bu'r syniad yn un poblogaidd iawn, a bu gofyn mawr am seddi. Yr oedd wir yn noson fawr i aelodau'r clwb a'u gwagedd.

Bwriadwyd ar y dechrau gynnal y cyngerdd yn ysgoldy y capel, ond sylweddolwyd yn fuan na fuasai yr ystafell yn ddigon mawr i ddal pawb ddymunai ddod i'r cyngerdd, a'r diwedd fu trefnu i symud i'r capel mawr. Gwelir, yn y darlun o'r gynulleidfa ar dudalen arall, mai dim ond cael a chael fu trefnu lle i bawb, hyd yn oed yn y capel.

Yr oedd Côr Meibion Chwarel Oakeley, o dan arweiniad T. O. Thomas, L.R.A.M., gyda'i cyfeilydd J. Ll. Williams, mewn llais ardderchog. Yn ychwanegol, cymerwyd rhan gan William Ll. Jones, Harri Hughes, yn adrodd, pedwarawd offerynnol Hefin Williams a'i gyfeillion, a Gareth Jones a'i ffrindiau yn diddori â digrifwch.

Brenhines y Chwareli

Dewiswyd Eluned Evans, merch Evan Ll. Evans, Glanypwll, chwarelwr o'r Oakeley, yn frenhines y chwareli allan o ddeg o ferched teulubedd chwarelwyr Oakeley, neu Votty. Dewiswyd Miss Evans trwy etholiad, a derbyniodd rodd ariannol.

O dan ofal Mrs. Idris Williams a Miss Gwenan Ll. Humphreys safent yn y sêr fawr, pob un a'i rif yn amlwg i bawb. Gyda chymeradwyaeth y gynulleidfa etholwyd Eluned, a gariai y rhifyn lwcus saith, i fynd ymlaen yn gynrychiolydd penigamp dros Oakeley a Votty yng nghystadlaeth y dre.

Yr ymgeiswyr a welir yn y darlun ar dudalen 22 yw: (chwith i'r dde) Dorothy Hughes, merch Robert Hughes; Laura May Griffiths, merch Charles Griffiths; Betty Roberts, merch y di-

weddar R. H. Roberts; Eirwen Jones, merch John Edward Jones; Rosie Roberts, merch John Roberts; June Williams, merch Robert Williams; Eluned Evans, merch Evan Ll. Evans; Rhianon Jones, merch Richard Jones; Rowena Williams, merch Griffith Williams, a Doreen Hughes, merch John Hughes.

Ar ran y clwb rhoddwyd y wobr i Eluned gan Miss Gwenan Ll. Humphreys, merch goruchwyliwr Chwarel Oakeley.

Cyfeiriodd Howel Williams, Votty, arweinydd y cyngerdd at absenoldeb anocheladwy y cadeirydd, Evan Edward Jones, Gloddfa Ganol, a welir yn y darlun ar y tudalen hon, wrth ddrws ei fwthyn ar lethrau Oakeley.

Dewiswyd Mr. Jones yn gadeirydd y cyngerdd gan aelodau'r clwb oherwydd



Evan Edward Jones

ei 56ain flynyddoedd o grefftwaith yn y chwareli. Y mae Mr. Jones yn 69 mlwydd oed, a dechreuodd yn chwarel Oakeley yn hogyn newydd adael yr ysgol. Am flynyddoedd bellach y mae wedi byw a gweithio i fynu ar Gloddfa Ganol, Oakeley.



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LOOKING DOWN ON "D.E." WHERE FALLEN ROCK IS BEING CLEARED

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