

"Yes, often; and I have wished to ask you, but I fancied there was some reason which you did not care to talk about."

"You were right; but I do want to talk about it to-day. I want to tell you my story. Will you listen?"

"Willingly, if it will not pain you."

"It will not hurt me to-day, and you shall judge if it may ever be spoken of again. Don't interrupt me, Claudia. Let me tell it to the end before you speak. Ten years ago, when I had just left Oxford, I went to stay at a country house with an old friend of my father's. My host had one daughter, who had only just left school to become mistress of his house. (Claudia gave a quick glance at him, but did not interrupt.) She was handsome, bright, and clever, and I thought what a grand woman she would be with better training than school or fashionable life could give her. I was young and enthusiastic, and I thought no lot could be more enviable than to take this beautiful girl into my own care, to influence the noble mind, and develop the powers and energy which would lie wasted and sleeping through years of idleness and luxury which, as beauty and heiress, were before her; and with all my heart I longed that this task might be given to me, though I had no hope that it could be so. I was poor, I had nothing to recommend me; and, though from the first she treated me with kindness and confidence, I should have been a fool to have mistaken her feeling, and I never did. Besides, I had been warned.

"There was some one else, nearer her own age, who possessed all the advantages in which I was wanting. 'My son and daughter some day, if the wish of my heart is fulfilled,' her father had said to me; and no one could deny how well they seemed suited. After that, came a time of trial for her, from which she came out nobly. Her father died (Fred took Claudia's hand, and held it), and, stirred to the depths of her nature by the loss, she withdrew from society, and found rest and consolation in things she had before neglected, and devoted herself to the training and education which were the only things needed to make her all that a woman should be. I was more privileged than her

other friends, for I watched her growth, and from time to time could give her a little help, and received in return her friendship and confidence. Then, when she went into the world again, and met the man whom her father had chosen, I watched the growth of their love for each other with deepest interest, and looked jealously for any sign of unworthiness in him; but even I for a time was obliged to be satisfied. But by-and-by a cloud arose, which grew and grew until it threatened to shipwreck their happiness. He could have been almost worthy of my queen of women, but he would not, and to me she came for help in her troubles. I gladly gave it, although I was terribly afraid that selfishness would creep in. I believe I did advise her rightly; and when she decided to put an end to her engagement, I could honestly hope that though this disappointment had come upon her in her first love, she might, after awhile, find some one really worthy of her. Then, after a long time, came a change in my fortunes, and my first thought was of her. I had now something to offer her: she was still disengaged; might there not be hope for me now? So one night I wrote her a letter—I have that letter still, Claudia—telling her of my love and asking for hers. I should have sent it the next day, but the morning brought me a letter which has darkened my life ever since. She wrote to ask my advice about marrying some one else!"

"Oh, Fred!" said Claudia softly.

"Her unconsciousness was a convincing proof of her indifference to me. There was no need to tell me that she came to me as to a brother for advice, and from that day I have tried to fill the place she gave me. But things have changed. Now she is free again, and alone. Claudia, tell me, is there any hope for me?"

"I never guessed it, or thought of your caring for me, Fred. It is new and startling. Can I ever forgive myself for the pain I have given you?"

"Make up for it now. I only love you better for the long waiting. Come to me at last, Claudia."

"Oh, Fred! if I can but make you happy after all!"

THE END.

SOMETHING ABOUT CLEVELAND "PIGS."

NOT so many years ago Cleveland was almost entirely agricultural, and its production was literally to some extent of a porcine nature; but now Cleveland "pigs" are of another kind, though their title to the name is as unquestionable, and perhaps about as widely known. To make no mystery of it, one of the chief productions of Cleveland and of the district bordering is that class of iron in the crude state which is called "pig" iron. The great district which is called the Cleveland Ironmasters' District produces considerable quantities of what is technically called "finished"

iron—iron in the shape of rails, plates, bars, or other forms—and in the last few years large quantities of one or two kinds of steel; but whilst a portion of its crude iron is used for the production of these, it smelts iron for its own use and for the use of many of its neighbours, as well as for distant iron-workers. The business, then, of the production of "pigs" has become in Cleveland the greatest of its industries, and that upon which, in a measure, all the others depend. In that district—which is wider and longer than the geographical boundaries of Cleveland, and yet appropriately named by that name, inasmuch as

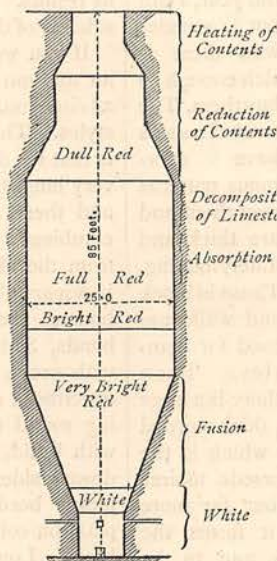
its furnaces are fed with Cleveland ironstone—in that district of Cleveland there are over 160 blast furnaces, all the erection of the last thirty years, and in which vast piles of masonry and iron-work not less than £3,500,000 are invested. Two arms of hills, with the intervening valleys, supply these with the ironstone, the adjacent county of Durham supplies fuel and flux, and thus except for the richest quality of iron the district is—what few of our iron districts are—self-contained, and capable of supplying all its own needs. It employs an army of workmen: some three or four thousand at those of the furnaces now in operation—for a proportion is necessarily idle for repairs and other causes—some eight or nine thousand in and about the iron-mines, and large numbers in the coal-mines, and limestone quarries, and in the needful task of conveying or in other methods treating the raw materials. At the present time about 220,000 tons of these "pigs" are made in the Cleveland District every month—by far the greater part from the local ores, and only a smaller proportion from those richer ores of which we have spoken. To produce these, there needs to be conveyed to the smelting furnaces over 6,000,000 tons of ironstone, about 3,000,000 tons of coke, and possibly half as much limestone—the latter used as a flux in the reduction of the iron. But there is another element employed, as we shall see.

By miles of trains these raw materials are carried away to the smelting centres on Tees-side or in Durham. There the ironstone is roasted—"calcined," to speak technically—in kilns near the blast furnaces, and thus superfluous moisture is taken out of it, and it is fit for use in the smelting furnaces near. Conveyed in iron barrows up the "lifts," which by hydraulic power usually raise it to the top of the furnace, a height varying from 70 to 100 feet, it is there emptied into the yawning mouth of the furnace, in which day and night for years a fierce flame and an intense heat is kept up, fed by continual supplies of coke, and aided in its work of reduction by that other element we have spoken of—air heated in magnificently designed stoves. It has been calculated some time ago that 7,000,000 tons of atmospheric air are annually driven into one blast furnace, so that the use of that element in the 110 furnaces usually at work in Cleveland is enormous. The ancient stoves for heating the air were very small, but the latest present some 150,000 feet of heating surface; and whilst the air used to be heated to a temperature of about 300°, it may now be heated to 1,300°. It is by this super-heating of the air, by the use of gases that were wasted, and by the better proportions of the furnaces, that the larger average production of iron has been

obtained, and that the large consumption of coke in the process of iron-smelting has been reduced nearly fifty per cent.

And now, having seen the coal, iron, and lime brought to the furnaces and emptied into the latter, and having noticed how the air is heated to aid the fuel in the work of smelting, it may be of interest to learn the changes that transpire in the blast furnace. Below, we give an engraving of the shape of one of the typical furnaces of Cleveland—85 feet high, and 25 feet in diameter at the "bosh." Into this great hollow tower—possibly of 20,000 cubic feet capacity—the iron, coke, and lime are teamed, and into it the heated air is driven. As they are subject to the fierce heat, changes occur, the colour brightening, the lime

being decomposed, the oxide of iron being reduced, and as the mass travels downwards it grows dull red, red, bright red, and finally white-hot as it reaches the bottom in the shape of molten pig iron, with the molten cinder or slag floating on it. From a diagram by one of the most eminent iron-masters, Mr. Lowthian Bell, an approximate outline of the change is given at the side of the engraving. The melting of the iron being duly effected, the furnace is "tapped"—a plug communicating from the outer to the inner part of the hearth of the furnace is struck out, and the liquid metal flows through it—the "slag" having been allowed to escape through an upper opening above that for the heavier metal. In the front of the furnace the sandy earth is moulded to allow the molten metal to run into it. Main furrows or ways right from



the orifice at the hearth or foot of the furnace lead to short branches four or five feet long placed at right angles. The two or three main furrows are called "sows," the numerous beds or hollows are the "pigs," and hence the name of "pig iron." When the furnace is tapped the fluid metal issues white-hot, runs along the sow, hissing and sparkling as it goes, fills each of the pigs as it rushes along; and there as the minutes pass its colour changes, and as it passes from a white heat to bright red, and so on to dull grey, it solidifies and is ready for removal, to allow the earth to be again moulded.

And this, week in and week out, is the process of manufacture of pig iron; and with the increase of the size of the furnaces and of the temperature of the blast, there are enlarged quantities made by each furnace, until 400 tons a week is no uncommon quantity. A portion—and an increasing one—does not pass through that process of running and cooling in the sows and pigs. Instead of issuing along the sandy furrows, it is received into huge ladles and is carried to converters, to be made directly into steel. But

with this process we have nothing here to do. It is that Cleveland "pig" of dull grey that we have endeavoured to sketch the production of, and it is for its production that the miners and the quarrymen are employed, and that the blast furnace, with

its wonderful machinery of "lift" and engine, of heating blast and gas utiliser, and its elaborate arrangement of hearth and "bosh," of throat and tuyere, of "bell" and cone, were upreared in such numbers on Tees-side.

J. W. STEEL.

WHAT TO WEAR.

CHIT-CHAT ON DRESS. BY OUR PARIS CORRESPONDENT.



AS I examine the new silks of the year, I can but wonder who there is rich enough to buy them. The *matalassés* have enormous patterns over them, and are thick and stately looking. Those in black and white are used for mantles. Then there is a large

range of Ottoman silks, which have a thick corded ground; it is this thick repped ground which is the novelty of the season, and is to supersede moires and watered silks. It is made plain, but far more frequently with huge checks. Then it forms the groundwork to large-patterned brocades, and to the brocades on velvet or satin grounds. Black and colours are both employed in brocades, and this year manufacturers have brought out one of solid tone on a contrasting ground. I should only weary you if I went through a long technical list of brocattelle, epinglé, cotelé, &c. I think you will best understand what is worn by bearing in mind that the brocades are of every variety, and chiefly of very large patterns, in self-colours, and of two shades blended, one for ground and one for pattern. They have not brought out any special colours, but, as the mercers say, "there is a feeling" for brown. The newest tones are terracottas, electric blue, and a vivid serpent-green; and green and terra-cotta blended together.

Silk, with a good thick cord, mixed with checks, brocades, and satin and velvet, are to be in fashion, and plain velvet more worn than brocaded, so it is said, but it is difficult to believe when you see the piles of magnificent brocaded velvets and brocaded plushes. These are among the most beautiful things of the day, soft and lovely, the pattern in a light shade on a dark ground. Then there are the plushes cut in vandykes, and those with the pattern of a scallop upon them; ordinary plush has had its day,

but these richer kinds have few rivals. French designers are bringing a wonderful amount of artistic skill to bear, and are rewarded by beautiful patterns as results. We have much to thank our own English schools of design for in this respect.

If you were to ask me for a simple style of making an autumn or winter dress, I should be puzzled to advise you. I never remember such a diversity of styles. The only point about which there is no doubt, is that for day wear gowns are short, for dinner long, very long indeed. Skirts are wide and well distended, and there are generally two, if not three, materials combined. Jackets of a plain, solid colour, distinct from the skirt, are worn, and many of these are cut in square short tabs round the basque. Still pointed bodices are worn, jacket basques only at the back, bands, Swiss belts, indeed almost anything. Brown with green is a new and favourite mixture. I will describe a cashmere and velvet of this. A kilt-plaiting round the skirt, then points of velvet bordered with braid, the front a plain piece of velvet buttoned down; side and back draperies of cashmere; a long jacket bordered with velvet; velvet revers, and a plastron covered with close-set perpendicular rows of braid. Long plain redingotes with revers at the neck, puffs at the back, and bordered with fur, are worn over plain skirts. Plain skirts, with a heavy *ruche* at the edge, and panier draperies are in vogue. Many of the draperies are caught up with gimp ornaments and with cord and tassels; occasionally the silk trimmings are united across the front in the same way.

Panels of velvet on skirts of plain materials are worn, and then there are plastrons on the bodice. Nearly all the sleeves are high and full on the shoulder. Large pompon fringes border tunics and bodices, also tabs of contrasting materials matching the sleeves, and not the bodices. Some of the skirts have waterfall draperies at the back. It seems to be the fashion to have skirts full in front, and occasionally these are caught up across the front with bows and bias bands, so that there is an enormous puff in front of the waist, more curious than pretty, and the full front breadth is often caught up here and there carelessly. Waistcoats are worn, and as much braiding as you can well apply. Many box-plaitings have braiding down the centre of each fold. Ball fringes are applied between the square battlements edging tunics and bodices; and curious heavy pleats descend from the waist to the hem of the skirt.