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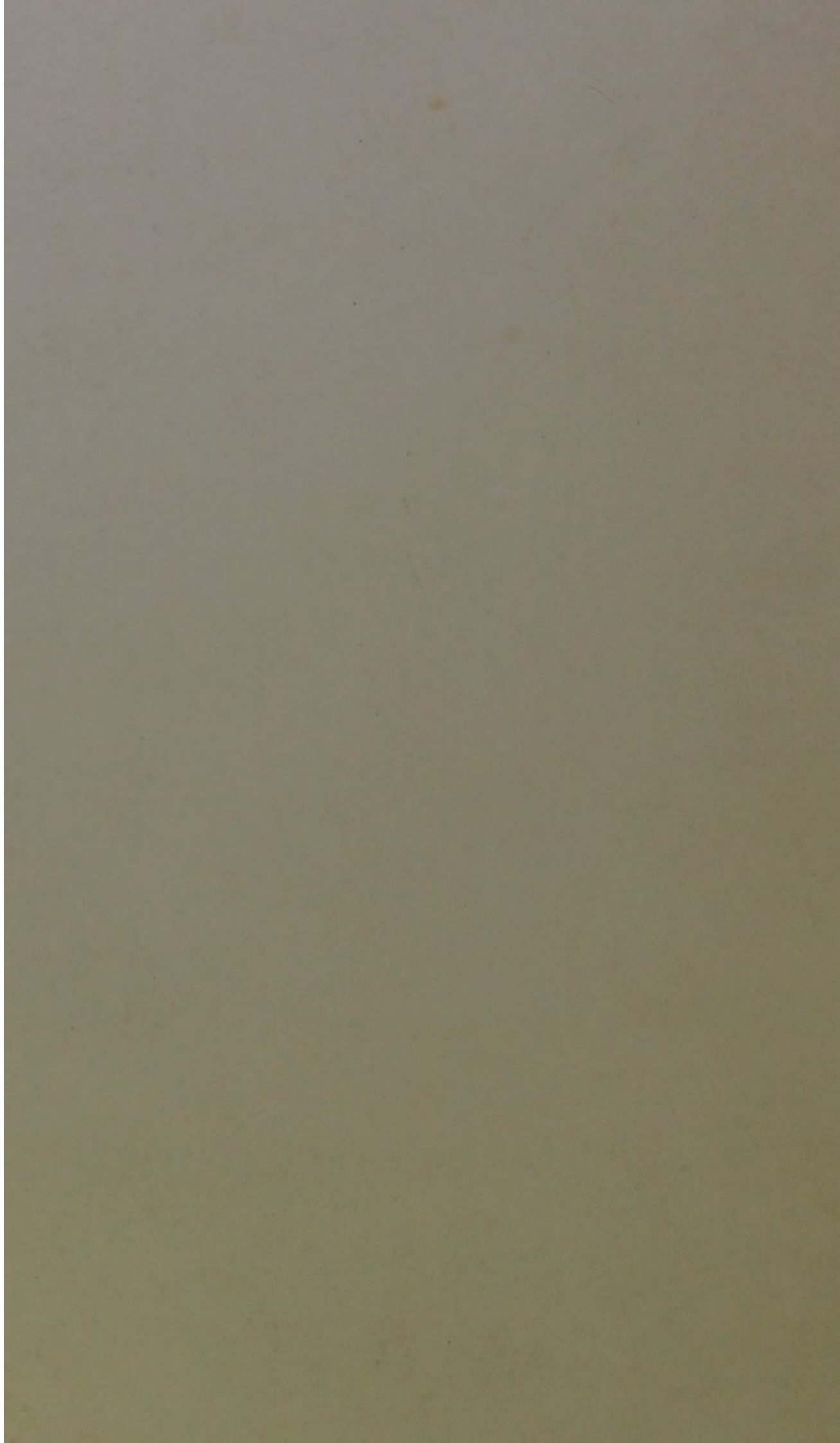
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ON

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FRENCH-MILLSTONE-MAKERS' PHTHISIS.

BY THOMAS B. PEACOCK, M.D.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS;

PHYSICIAN TO ST. THOMAS'S HOSPITAL;

AND TO THE HOSPITAL FOR DISEASES OF THE CHEST, VICTORIA PARK.

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1862.

ON FRENCH-NESTLE-MAKERS' PHTHISIS

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ON FRENCH-MILLSTONE-MAKERS' PHTHISIS.

IN 1727, Wepfer* referred to the frequency of consumption among the workmen employed at Waldshut, on the Rhine, in the excavation and cutting of millstones. In 1775, Le Blanc† described, on the authority of M. Clozier, of Etampes, a form of disease prevalent among the men employed in cutting the grits or freestones of that neighbourhood, and popularly known as the "Maladie du Grès," or the "Maladie de Saint Roch,"‡ and in 1799, Dr. Johnstone§ drew attention to the frequency of consumption among the work-people employed in Worcestershire in needle-pointing, and stated that the disease was locally known as the "grinder's rot." Since these observations and the more casual notices of the frequency of consumption in stone-cutters, metal-grinders, &c., by Morgagni, Ramazzini, Kirkland, &c., the subject has attracted much attention; and the account given by Dr. Alison|| of the prevalence of pulmonary disease and the short duration of life among the stone-masons of the neighbourhood of Edinburgh, and the similar reports as to the dry-grinders of Sheffield, by Knight,¶ Holland,** and

* *Observationes Medico-practicæ, &c.* Scaphusii; 1727. Obs. civ., f. 444.

† *Mém. sur la formation et l'endurcissement du Grès, &c.*, Paris; 1775, p. 585.

‡ This term seems to be popularly applied in France to several diseases, especially to the plague and some form of scorbutic cutaneous disease.

§ *Memoirs of Medical Society of London*, vol. v., 1799. p. 89.

|| *Transactions of the Medico-Chirurgical Society of Edinburgh*, vol. i. p. 373.

¶ *North of England Medical and Surgical Journal*, vol. i., 1830-31, pp. 85 and 167.

** *Diseases of Lungs from Mechanical Causes.* London, 1853.

Favell,* have established the fact of the injurious influence of occupations in which the particles of stone or metal are thrown off, and, becoming diffused through the atmosphere of the shops, are inhaled by the workpeople. More recent writers have indeed shown that—as in the instances referred to by Wepfer and Johnstone—other causes besides the direct injury sustained by the respiratory organs conduce to the injurious effects of these trades. M. Burgoin, from an investigation into the relative proportion of births and deaths at Meusnes, in the department of the Loire et Cher, the seat of the manufacture of gun-flints for France, from 1680 to 1709, before the establishment of the manufacture, and from 1760 to 1790, when it was fully in operation, inferred that the duration of life had been greatly reduced by the introduction of the employment, and he regarded this result as especially due to the gritty particles inhaled by the workpeople. M. Benoiston de Chateauneuf,† however, showed that in certain localities in which the population was employed in stone-cutting, the rate of mortality was not higher than in other parts of France, and that some trades in which the workpeople inhaled a gritty dust were not especially injurious, he therefore inferred that the high rate of mortality at Meusnes was due to other causes, and, as he supposed, especially to the confined position assumed by the workpeople, preventing the free expansion of the chest, and the impure air of the quarries and workshops in which they were employed. Subsequently, M. Lombard,‡ of Geneva, from a very elaborate investigation of the causes of death in the hospitals of Paris, Hamburgh, and Vienna, and especially of the mortuary registers of Geneva, from 1776 to 1830 for men, and from 1816 to the same year for women, was led to infer, that, though the inhalation of gritty particles, and especially of the finer and heavier kinds from stone and iron, was injurious, it was less productive of phthisis than other causes which act by deteriorating the general health, such as want of fresh air and

* Transactions of Provincial Medical and Surgical Association, vol. xxiv. (N.S. vol. ii.), 1846, p. 143.

† Annales d'Hygiène Publique, t. vi., 1831, p. 5.

‡ Annales d'Hygiène Publique, t. xi., 1834, p. 5.

exercise, and of the necessities of life. In the following paper I propose briefly to draw attention to the prevalence of pulmonary disease in a class of workmen among whom it has not, so far as I am aware, been hitherto particularly noticed: I refer to the French-millstone-makers, or builders, as they, perhaps more properly, call themselves.

The stone which these men work is known in the trade as the "French Burr." It is imported into this country by way of Rouen and Havre, chiefly to London, Hull, and Liverpool, in which towns the shops for the manufacture of millstones are chiefly situated. During the war, when the intercourse between France and England was cut off, the millstones employed so imperfectly fulfilled the requirements, that a prize was offered by the Society of Arts for the discovery of a substitute in this country; but without success, and since the peace the French stone has again been extensively imported. The burr is a peculiarly hard kind of flint. It is known to French mineralogists under the names of "*Silex molaire*" or "*Pierre meulière*;" and according to M. Guibourt,* who appears to have derived his information from Brongniart, is found in certain tertiary strata of lacustrine or fresh-water origin. It is situated in the Paris basin above the gypsum containing bones, and in strata of sand and sandstone. It occurs either in beds or in smaller masses, and the beds are sometimes so large as to admit of two or even three millstones being cut from the same piece, but never more. They are of no great thickness; are generally cellular, and the cells are irregular, and sometimes contain plates or fibres of *silex*. The stone is more tenacious and less easily broken than gun-flint; it is slightly translucent, and is generally of a tarnished whitish, yellowish, or reddish colour. It is obtained in open quarries, and in removing it grooves are cut, into which wedges of iron or wood are driven, so as to break off portions of the required size. According to Brongniart, the best stones are obtained from La Ferté sous Jouarre on the Marne, to the east of Paris, where the trade has been carried on for some centuries. The stones which are of a bluish-white colour, and do not contain fossils are

* *Drogues Simples*, 4th edition, vol. i. p. 100. 1849.

the best. The smaller portions are cut into *carreaux*, or quadrangular blocks, and are extensively exported to England and America.

Though the masses sufficiently large to form entire stones are occasionally brought to this country, it is usually in the form of the smaller blocks, measuring about fifteen or sixteen inches in length, ten or eleven in breadth, and six or seven in depth, that the burr is seen in the millstone-makers' yards. The stone is not only brought from La Ferté sous Jonarre, but also from the neighbourhood of Epernon, to the south-west of Paris, and it is said to exist extensively in other parts of France.* The stones are of a yellowish brown colour, and are more or less thickly studded with small cellular or tubular spaces of irregular form, and lined by a yellowish powder. They are stated sometimes to contain fossil shells,—different quarries differing in this respect. The stones also vary in the degree of translucency.

From the "*carreaux*," or blocks, the millstones are manufactured in this country by cutting their surfaces into angular forms, so as to fit them together, cementing the portions with plaster of Paris, and binding the whole with strong bands of iron round the circumference; grooves, radiating from the central opening towards the circumference, and about an inch and a half apart, are then cut on the grinding surfaces.

The rough working of the stones is effected by a steel chisel, "the pritchell," which is struck by a metal hammer, and the surfaces are finished by picking with a double-pointed steel instrument fixed in a wooden handle—the "bill and thrift." As the burr is extremely hard, every stroke of the chisel is attended by a bright flash of light, and a cloud of dust and larger or smaller particles of stone, forming a sharp grit, are thrown off. Portions of the stone and of iron from the chisel, not unfrequently become

* According to Brard (*Minéralogie Appliquée aux Arts*, Paris, 1821), the *silex molaire* is obtained at Tarterai près de la Ferté sous Jouarre, Département du Seine et Marne; Domme, Département de la Dordogne; Ferté sur Loire, près de Nevers, Département de la Nièvre; and Saint Maxient, Département des deux Sevres.

embedded in the hands or face of the workmen, so that the backs of the hands of those who have been long at the trade are studded with small bluish spots, and occasionally the men sustain serious injuries to their eyes.

The men who are engaged in this work universally regard it as a very injurious occupation, and state that the burr is a much more dangerous stone to work than the Yorkshire or Derbyshire grit, the Scotch granite or the German basalt, which are also employed for the formation of millstones.* A very intelligent young man, the foreman of one of the yards, who informed me that he had been bred to the trade, stated that he had known at least twenty persons die of chest affections, out of the small number, not, I believe, exceeding fifty, who are employed at the work in London. He also told me that the oldest workman he knew had only been in constant employment at the trade for thirteen years, and that all who work at it suffer sooner or later. One of the masters informed me, that those who are apprenticed to the trade, or take to it early in life, never live beyond forty years; and one of the foremen said they seldom do more than live out their time. These statements are confirmed by my own observations during visits made to the yards in the spring of 1859; I found in three out of the four London shops, forty-one men at work, of whom twenty-three stated that they had been apprenticed to the trade, or had taken to it when not above twenty years of age. Of this number the average age was 24.1 years, and the ages of the five oldest workmen were 38, 29, 29, 28, and 28. The average period during which they had worked at the trade was 8.9 years, and the three who had been longest engaged had been 18, 17, and $14\frac{3}{4}$ years. It also appears that it is common for the men to leave the millstone making and work for a time as millwrights or engineers, so that it is quite possible that some of the twenty-three may not have been in constant work as millstone builders; but however this may be, the age of the men was certainly very low, and their period of work short.

* The burr is only used for grinding wheat, and of cement-stones, and for these purposes its extreme hardness is said especially to adapt it. The other stones are used for rice, barley, or beans.

The difference in these respects is indeed very remarkable between the men employed as millstone-makers, and those who, in some of the same establishments, are engaged in wire-weaving, &c., for the formation of sifters for flour, for drying the pulp in the manufacture of paper, and for other purposes. In one establishment I found nineteen men so engaged; of these, thirteen informed me that they had been apprenticed to the trade, or had joined it at or before twenty years of age. Of this number the mean age was 35.84 years, and five of them had attained the ages of 71, 43, 42, 40, and 40. The mean period during which they had worked at the trade was 20.69 years, and eight of them had been engaged for 51, 32, 29, 25, 25, 24, 24, and 22 years. These men were certainly less healthy-looking than the millstone-makers; but they stated that they enjoyed good health, and this was confirmed by the very small number who had received relief from the sick fund during the period of five years, of which the accounts were shown me. The contrast between the different classes of workmen is the more striking, in that, so far as most circumstances are concerned, the metal-weavers are in less favourable sanitary conditions than the millstone-makers; for their workshops are some of them underground and close; but I understood that they are steadier in their habits, and that their employment is more regular.

My attention was first attracted to the prevalence of pulmonary disease among the French-millstone-makers by the number who applied to me at St. Thomas's and the Victoria Park Hospitals, and before I had made any inquiries at the shops which might bring the men more particularly under observation. I feel therefore convinced that the occupation is one which predisposes to pulmonary affections; but it is open to inquiry in what way it exercises an injurious influence—whether it be, as supposed by the men themselves, from the dust which they breathe, or from the influence of other causes which rather operate by deteriorating their general health.

When I visited the shops during the spring, they were certainly dusty, though from the dampness of the weather, it was said less so than usual. There can also be no doubt that the dust is exten-

sively inhaled; for in a case the particulars of which will shortly be detailed, siliceous particles were found in consolidated portions of lung. It is evident that such particles lodged on the mucous membrane of the smaller bronchial tubes or in the cells of the lungs must be a serious source of irritation, tending in persons of healthy constitution to the production of chronic bronchitis and asthma, and in those inheriting a constitutional predisposition to phthisis, to the development of tubercle.

Other causes doubtless conduce to the unhealthiness of the occupation. Thus, though, as a general remark, the workshops are sufficiently roomy and protected from the weather, in some cases they are very defective. In one yard, some of the men were at work in underground cellars, which, though freely open above, must be damp and unwholesome; and others occupied open sheds, where they must be much exposed to the weather. The want of general exercise is also objectionable. The men work at the stones standing up or leaning over them, and, except in their arms, use little muscular exertion, and their chests cannot be well expanded.* Some of the men also habitually take an amount of stimulus which must be very injurious. They state that their occupation is an exhausting one, and they in consequence drink a large quantity of beer. Four or five pints, is, I believe, by no means an unusual quantity, and some take spirits also. One of the masters, a fine healthy-looking middle-aged man, who said that he had worked at the trade for many years, and had always enjoyed good health, ascribed his immunity from the usual effects to his temperate habits, and stated that if the men lived temperately they suffered much less. In his yard he allowed the workmen a pint of beer morning and afternoon, but interdicted all going to the public-house, or having beer brought upon the premises; and stated that his men were in consequence healthier than in other yards. This statement is confirmed by the fact, that though his shop is not far from St. Thomas's Hospital, and several of his men have applied to

* It is probable that the powerful muscular exertion which is undergone by the wire-weavers is one cause of their freedom from the affections which prove so fatal to the millstone-makers.

me for other ailments, I have seen no case of phthisis or chronic bronchitis among them.

So far as the ordinary necessities of life are concerned, the mill-stone-makers are generally favourably placed. They earn good wages, being paid at the rate of 6d. per hour, or 5s. a day, or by piecework, at which they can earn still more. They are well clad, and live well. The occupation is also a tolerably certain one, but the men may occasionally be thrown out of work, and so suffer privation.

The causes which have been named do not therefore appear sufficient to explain the great tendency to pulmonary affections among the mill-stone-makers, apart from the injurious influence which is exercised by the gritty particles of silex which they inhale while at work. This is indeed, I believe, the main cause of their sufferings.

The following cases afford examples of pulmonary disease in mill-stone builders :

CASE 1.—J. S., aged twenty-three, was admitted as an out-patient at St. Thomas's Hospital, on the 7th of October, 1858. He then stated that he had suffered for twelve months from an affection of the chest, but had enjoyed good health before that time. His illness commenced with spitting of blood, which, however, was not to any great extent. The hæmoptysis recurred nine months after, and he was expectorating blood at the time he applied at the hospital. He then complained also of difficulty of breathing, pains in the chest, severe cough, and expectoration. His appetite was defective, but his digestion was good, and his bowels regular. He was pale, thin, and phthisical-looking. His father and mother and all their family, consisting of twelve besides himself, were healthy, except a brother, a millstone-maker, who has been under my care for symptoms of consumption.* A third brother, also a millstone-maker, has worked at the trade eleven years without suffering. He himself went to the work when about sixteen years of age, and he has continued at it regularly, except

* He has since died.

five years ago, when he left it for a year, and worked as an engineer in a flour mill. He has constantly been employed in working the French burr. He regards himself as having been a temperate man, and has only been in the habit of taking three pints of beer daily, and has rarely committed an excess. On examining the chest there was found to be some deficiency of the resonance on percussion at the left apex, with obscure tympanitic resonance at the right; bronchial respiration and crepitation at the left apex, and cavernous respiration and rhonchus at the right. He was at first directed to take the cinchona and acid mixture, with compound tincture of camphor during the day, and hyoseyamus and Dover's powder pills at night. Subsequently cod-liver oil was prescribed. He continued regularly under care during the winter, and though he thought himself better, steadily lost ground, and on the 3rd of March, 1859, in consequence of his declining strength having rendered him incapable of work, he was admitted as an in-patient into Jacob's Ward. The physical signs then indicated more advanced and extensive disease; his cough was very troublesome, the expectoration profuse and occasionally bloody, and the dyspnœa greater. He had profuse night-sweats, his pulse was quick and weak, and he complained of pain in the right side. There was marked dulness on percussion at the lower part of that side. His appetite was very defective, and he could take little food, and was much prostrated and emaciated. He died exhausted on the 20th.

The post-mortem examination was performed by Dr. Bristowe, who took the following notes:—The backs of the hands, especially in the neighbourhood of the knuckles, were thickly studded with papulæ, containing in their interior a small blackish-looking encysted mass, which proved to be an elongated angular fragment of stone or iron, varying from the size of a poppy seed downwards. The left pleura presented a few old adhesions. The lung was voluminous, for the most part crepitant, and indeed somewhat inflated. The upper lobe presented numerous grey miliary tubercles, which had a tendency to run together and form irregular indurated patches of various sizes. The apex and upper third of

the lower lobe were similarly affected. The right pleura at the extreme apex, and to some extent behind and at the base, was firmly adherent, but the rest of its extent formed a cavity, lined by a pulpy pus-infiltrated lymph, and containing between three and four pints of healthy-looking pus. The lung was very much reduced in size, compressed, and perfectly airless. It was studded thickly throughout with grey miliary tubercles, and in its apex contained several cavities, more or less freely communicating with one another, and of considerable size. There were two or three distinct and rounded orifices, from one-third of an inch in diameter downwards, by which they communicated with the empyema. The bronchial tubes of both lungs were somewhat congested, and contained a large quantity of purulent fluid. There was slight redness and excoriation of the larynx over the anterior process of the left arytenoid cartilage, but the larynx and trachea were otherwise healthy. Many of the bronchial glands were studded with tubercles, and infiltrated with black pigment. The pericardium and heart were healthy. The peritoneum, with the liver, spleen, pancreas, supra-renal capsules and kidneys, displayed no appearance of disease. The stomach and intestines were healthy, except that a few tubercular ulcers existed in the ileum and cæcum.

CASE II.—W. C., aged thirty-seven, applied as an out-patient at St. Thomas's Hospital, on the 11th of November, 1858. He stated that he laboured under symptoms of affection of the chest for five years, very severely during each winter, but less so in summer, though he was never entirely free from difficulty of breathing and coughing. He suffered extremely in damp and foggy weather, and got worse each winter. His illness, he says, was first brought on by his having got wet through and having allowed his clothes to dry on him; but he thinks that he has been made much worse by the dusty atmosphere which he breathes in his trade of millstone-maker. He was brought up as a millwright, but took to the French millstone-making when about twenty years of age, and he has continued at that trade ever since, except that he used to leave it for a month or six weeks during the winter, when work was slack, and act as an engineer. For the last five years, however, he has been

constantly employed as foreman of one of the largest millstone-making yards, and he believes himself to be the oldest man in the trade in London. He has always been a "middling steady man," but used formerly to take spirits and much beer; he now takes four or five pints of beer daily, and occasionally more, but never drinks spirits.

He complained chiefly of difficulty of breathing, cough, and expectoration. His face was tumid, and somewhat livid; the expectoration chiefly troubled him in the morning, and was occasionally streaked with blood. His breathing was extremely difficult during foggy weather. On examining his chest, the resonance on percussion was found to be somewhat abnormally clear in the mammary and impaired at the clavicular regions. The inspiratory sound was generally feeble and the expiratory loud and prolonged, and bronchitic rhonchi were heard in all parts. The backs of his hands were covered with black spots, which he said were produced by the pieces of iron thrown off from the chisel in millstone-making. He stated that the men employed in working the "French burr" all suffer with coughs and asthma sooner or later, and this he ascribes to the sharpness of the dust which is thrown off in striking the stone; and he says that the workshops are very dusty. From this time he continued to attend at St. Thomas's Hospital till the spring of 1859; he presented the usual symptoms of chronic bronchitis, but occasionally spat blood, though never in large quantity. In April, feeling himself better, he left me, and I did not see him again till I heard he was very ill, and visited him at his home on the 15th of November. I then ascertained that though he had been free from his asthmatic symptoms during the summer, he had never obtained the usual amount of relief; and when the cold and damp weather of the autumn set in, he got much worse. When seen, he had been incapable of following his occupation for six weeks; he was suffering from dyspnoea, so urgent that he was incapable of lying down in bed. The expectoration was very dark, almost black, and was viscid and airless, and very profuse; his pulse was feeble and somewhat irregular, and there was œdema of the ankles. Bronchitic rhonchi were heard in all parts of the

chest, and the resonance on percussion above in front was impaired. I again saw him with Mr. Wilson, of Cecil Street, his private medical attendant, on the 19th; he was then obviously sinking rapidly. His lower extremities had become very anasarcaous, and his intelligence was much impaired; he died on the evening of the 23rd.

I am indebted to Mr. Hughlings Jackson for the performance of the post-mortem examination, and for the following statement of the facts disclosed. The right lung was everywhere adherent to the parietes, and was removed with difficulty; the left was only attached at its apex. Both lungs were tuberculous, but the right especially so, and the deposit was so copious at the apices as to render them solid. The tubercles existed in masses, with interposed pulmonary tissue comparatively sound. The lower lobe of the left lung had merely here and there small miliary tubercles, which were especially superficial at the base. In the right lung there were two small irregular cavities containing pus, one in the apex and the other in the centre of the lung, and each about the size of a walnut. The bronchial glands were very large, hard, and of a deep black colour. The pericardium was healthy, the heart was flabby, and its cavities dilated, so that when emptied, it was smaller than usual; there was no valvular disease; but a white patch existed on its anterior surface. The kidneys were unusually large, but healthy; and the liver and other abdominal organs were apparently free from disease.

Portions of the indurated pulmonary tissue, and of the diseased bronchial glands, were obligingly examined by Dr. Bristowe, who has furnished me with the following notes:—"The diseased portions of lung were much indurated, having generally an opaque whitish hue, but being thickly studded with black pigment. Under the microscope little or no trace of original lung-structure was visible, but the diseased masses appear to be made up of dense closely-arranged fibroid tissue, studded here and there with numerous irregular groups of black pigment, and generally with an abundance of transparent granules and globules of various sizes. The tissues were rendered comparatively transparent under the influence of strong acetic acid, the fibroid tissue becoming a little

expanded, and many of the granules and globules disappearing. The bronchial gland presented characters identical with those of the diseased lung."

Portions of the indurated lung-tissue were subjected by myself to ignition in the flame of a spirit-lamp. The white ash which remained dissolved to a great extent in hydrochloric acid, and partly with effervescence; but a portion was left, which was seen under the microscope to consist of small angular transparent granules, exactly resembling the finer portions of the siliceous dust collected from one of the workshops. Dr. Moldenhauer, assistant in the chemical laboratory at St. Thomas's Hospital, also subjected portions of the indurated lung to the action of fire and nitric acid, and found that a considerable quantity of gritty matter remained, which had an amorphous aspect under the microscope, and was inferred to be siliceous. The bronchial gland did not contain any similar material.

The cases which have been detailed do not appear materially to differ in their symptoms from similar forms of disease originating under other circumstances. The first affords a sufficiently characteristic example of tubercular phthisis; the second of chronic bronchitis lapsing into phthisis. It is, however, possible that closer observation of other cases of disease in the same class of persons, may lead to the detection of some special facts by which they are characterized. It seems also probable that in persons who become phthisical from being exposed to local irritation from the inhalation of particles of stone or metal, the disease will be slower in its progress, and be preceded by more marked symptoms of faucial and laryngeal irritation, than under other circumstances.

So far as we know at present, the disease induced by this cause does not admit of any special treatment, but our attention must be mainly directed to prevention, and there can be no doubt that in this way much may be accomplished.

1st. It would appear that much of the deleterious influence of French-millstone-making may be obviated by not allowing persons to enter the trade till after they have attained their full growth

and vigour of constitution. As I have before mentioned, one of the foremen said that when boys were apprenticed to the trade they scarcely do more than live out their time; and though this may be somewhat too strongly expressed, it appears to be mainly true, for one of the masters said that he had declined to take apprentices, from the number of persons whom he had known to die of consumption when put to the trade early. On the other hand, all the information obtained tended to show that the work is much less injurious to those who take to it when more advanced in life. I found at work several middle-aged men who had been some years at the trade without suffering, and one man of fifty-four told me that he had taken to the work when thirty-four years of age, had continued at it for twenty years without suffering, and was then in good health.

2ndly. The men should be cautioned to be careful to protect themselves against the usual causes of cold, by wearing suitable clothing, and especially to avoid all excess in the use of stimulants. Unfortunately, men engaged in trades which are known to be injurious are apt, partly perhaps from recklessness, but partly also from ignorance, to be dissipated in their habits; we are informed that such was the case with the millstone-makers of Waldshut, and with the needle-pointers of Worcestershire; and the intemperance of the dry-grinders of Sheffield is notorious. The French-millstone-makers have often told me that they require a large quantity of stimulating beverage, and that if a man is abstemious he dies all the sooner; and this is made the excuse for their taking a very immoderate amount of stimulus. There can be no doubt that habits of intemperance very greatly aggravate the other evil influences to which they are exposed, and that were they to live temperately, but well, they would suffer less, and live much longer. I cannot but think that representations of this kind would have much weight with the men; and I am informed that their habits have latterly improved, and with advantage to their general health.

3rdly. Much may probably also be done to mitigate the injurious effects of the work by lessening the liability of the men to take cold from exposure to the weather, by reducing the quantity •

of dust thrown off and diffused in the atmosphere, and protecting the workmen against its inhalation. The workshops should be roomy and well ventilated, and should admit of being freely opened in dry and warm, and closed in damp and cold, weather. Working in underground cellars or in the open air are both objectionable. The men should be advised to work as much as possible in the upright position, instead of stooping over the stones, so as to expose themselves as little as possible to the inhalation of the dust. The stones might, perhaps, be equally well worked wet instead of dry, and thus much less dust would be thrown off; and the only objection to this which I have heard stated is, that the tools would the sooner wear out. Lastly, they might avoid the inhalation of the dust by wearing respirators, either at all times, or when the shops are more particularly dusty.

THE CASE OF THE MISSING MAN

CHAPTER I

It was a fine morning in the month of May, and the sun was shining brightly on the faces of the people who were gathered in the square in front of the town hall.

The people were of all ages and of all ranks, and they were all looking towards the town hall with interest and expectation.

For it was there that the missing man was to be seen, and it was there that the mystery was to be solved.

The man was a young man, and he was a handsome man, and he was a man of great ability and great courage.

He had been missing for many days, and his friends were all looking for him with great anxiety.

And now he was to be seen, and now the mystery was to be solved, and now the people were to know the truth.

It was a great day for the town, and it was a great day for the people, and it was a great day for the missing man.

For it was on this day that the missing man was found, and it was on this day that the mystery was solved.

The man was found in a cave, and he was found alive, and he was found well.

And now he was to be seen, and now the mystery was to be solved, and now the people were to know the truth.

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