may yet be restored to their families, their friends, and to the world. Against this probability are only to be placed the mutations and chances to which, under ordinary circumstances, human life is everywhere liable; for it is almost certain that Sir John Franklin and his noble crew could not have not been exposed to danger arising from any catastrophe; icebergs in the region to which he has been traced, are things unknown, nor yet are there seas there, in a nautical sense, by which their lives would be imperilled; the only accident that could befall them, would be from the sudden closing in of the ice, characterized by the term of "nipping," but even from that there are almost always time and means to afford escape; and consequently, a carefully formed opinion, based on reliable *data*, is now entertained among scientific and experienced men—such as Sir Roderick Murchison, and Commander Parry of your own nation, and of numbers among us, whose practical knowledge of those regions adds weight to the authority,—that this little band of martyrs to science, or at any rate, the greater part of them, are still alive, and, if the search be faithfully persevered in, that they will yet be found.—*Speech of Dr. Kane, of the Grinnell Arctic Expedition.*

Progress of the Electric Telegraph.—The Mediterranean Electric Telegraph Company, propose to unite Europe with Africa by continuing the electric wires, which now run without interruption between London and Genoa, to Spezzia. From the latter port they will cross the Mediterranean to Africa, passing by the islands of Corsica and Sardinia. It is further proposed to construct a subterranean line from Algeria, along the coast of Africa to Alexandria; and, with the support of the British Government and the East India Company, it will be easy to prolong the wires to Bombay, where they will meet the great line of 3,000 miles now in course of construction by the East India Company. The farther end of this chain may ultimately be carried to Australia.

Sanitary Properties of Wool.—Professor Simpson, of Edinburgh, has been the means of bringing to light a curious corroboration of the sanitary value of the ancient practice of annointing with oil. It appears, that the learned Professor, when recently visiting the manufacturing town of Galashiels, was casually informed that the workers in the wool-mill in that place were exempt from the attacks of consumption and scrofula. On inquiring of the medical men in the vicinity, the truth of the statement was confirmed, and it was then deemed expedient to pursue investigation on a broader scale. Communications were accordingly sent to physicians residing in Dunfermline, Alloa, Tillicoultry, Inverness, and other districts where wool-mills are in operation; and in the case of all, it was ascertained that similar immunity was enjoyed from the fatal diseases mentioned. It further appeared that, in some of the localities, scarlatina, only preserved health; but children of delicate constitution were sent to the wool-workers for the express purpose of acquiring strength—a result in almost every instance attained.

Extract from Dr. Owen's Report on Wisconsin.—It had been usually believed, up to the date of my Annual Report of 1848, that the lowest members of the sandstone formation of which I am now speaking, were devoid of fossils. The geologists of our own country had set down the Lingula beds of the New York Potsdam Standstone as the oldest fossiliferous rocks in the United States. And, in Europe, with the exception of the *Obolus Appolinis* of Eichwald, abundantly found in the inferior sandstones of the protozoic strata of Russia, no fossils whatever, (according to any established system) had been described or discovered beneath what has been usually regarded as the equivalent of the above named Lingula beds. I am now able to exhibit a new and interesting geological feature with regard to this formation. The present survey has brought to light the fact, that in Western America, are found strata underlying coarse Lingula grits, and at a depth of seventy-five to one hundred feet beneath them, which are highly fossiliferous, and contain not the *Lingula* and *Obolus* alone, but *Orbicidus*, *Trilobites*, and compressed subconical bodies, resembling some forms of *Cephalopoda*, but probably not actually of that order. The sedimentary strata, in which, on the Mississippi and most of its tributaries, these fossils occur, either rest immediately on the igneous rocks of Wisconsin, or are separated from them by an inconsiderable thickness of chlorite and ferruginous slates; and are, in all probability the oldest fossil bearing rocks yet brought to light in any part of this Continent, if not of the world

Dr. Owen's Description of a new mode of Drawing Fossils.—The fossil itself serve as a guide and model to work from. After the specimen is fixed permanently on the machine, ore arm, pointed with steel, traverses all its inequalities of surface, in close parallel waving lines, and imparts a corresponding movement to a diamond point, in contact with the steel plate, which cuts similar lines through the prepared asphaltum surface down and slightly into the steel plate; subsequently these lines are corroded deeper—in the language of the engraver, bitten—into the metal by means of dilute nitric acid. Thus is produced an engraving, in a delicate silvery effect of light and shadow, capable of giving, if desired, 100,000 impressions of as perfect a counterpart of the original as can be accomplished by the daguerreotype process, provided the subject has not too great relief and can be placed in a horizontal position in the machine.

Though the plates in this work are the first application of this art to the representation of fossil remains, it has been a wonderfully successful experiment which will doubtless be the means of its introduction whenever the form and character of the subjects admit of its application. All structure visible to the naked eye can be brought out by this process; and minuter structure, indistinctly visible to the unassisted eye, can be worked up by a skillful artist, after the plate comes from the machine.

Loss of Sulphur in Smelting Ores.—The *Cornwall Gazette*, after quoting our description in the Journal, of 19th March, of Mr. Andrew Crosse's patent for extracting metals from their ores by electricity, alludes to the great advantages which would ensue nationally were measures adopted for securing the sulphur contained in a majority of the copper ores, now dissipated in the atmosphere by the present mode of roasting the ores for smelting. The principal portion of the copper ores of Cornwall are pyrites, containing in addition to the copper and earthly matters, a considerable portion of iron and a large amount of sulphur. The iron is comparatively of little value, and would not pay for recovering; but taking the copper pyrites at 12,000 tons per month, probably near the average, 18,000 tons of sulphur are wasted per annum, which, by proper chemically scientific principles, might be saved, increase the mineral wealth of the counties of Cornwall and Devon by £150,000 a year, render us to a certain extent independent of Sicily and the copper smelting works cease to be the destructive nuisances which they are at present. We have, on many previous occasions, in former years inserted valuable correspondence on this subject from Messrs. Leishton, Prideaux, Birkmyre, and others; and still consider it of much national importance, and worthy of scientific and experimental research.—*Mining Journal.*

Permeability of Metals by Mercury.—M. J. Nickles, in experiments on the metals, has discovered that those which will form an amalgam with mercury are easily permeated by it. Horsferd and others establish the permeability of tin, lead, gold, silver, zinc, and cadmium, to which M. Nickles adds copper and brass. This fact was discovered by accident—he was using a Bunsen's battery; the connecting pieces of copper were rivetted to the zinc, and on amalgamating the latter metal it often happened that the mercury spread itself over the copper, and after a certain time this latter metal became brittle, having a white fracture, proving itself an amalgam. With a stylet, he then traced a furrow on plates to be experimented on, and placed a little mercury therein. In order to hasten the amalgamation, a drop of bi-chloride of mercury, acidified with hydro-chloric acid, is introduced By this means the amalgamation takes place instantly, and the surface is fitted to retain at once the quantity of mercury necessary to produce the effect.

Occasional Readings

Of two Thermometers, one with blackened bulb, the other unblackened, laid on the grass in front of the Provincial Observatory door, facing South, with the tops of the Thermometer slightly raised, and corresponding readings of the standard Thermometer in the shade, with Northern aspect.

August, 1853.	Time.	Sun. Black Bulb.	Sun. unbl'ked	Sh'de. Stand.
		°	°	°
10th.	Noon	130·5	111·4	87·5
Mean 76°·93	12 15	136·2	114 5	88 0
Max 88°·6 R'ge 23°·6	12 30	112 6	100 2	87 9
Min.65°·0 R'ge 23°·6	12 45	130 8	117 8	88 2
	1·00	132 5	118·5	88 4
11th.	11.00	129·4	111.2	85 9
Mean 79°·25	12·00	123 8	109 2	88 1
	12 30	131 0	113 0	89 0
Max 91°·9 R'ge 25°·5	1 00	116·8	106·5	89 2
Min.69°·4 R'ge 25°·5	2 30	119 2	110 8	91 6
	3 30	103.8	98 5	89 9
12th.	10·40	117·0	106 0	87 0
Mean 79°·83	11·00	126·0	112·4	88 2
	11 30	110 0	100 0	86 8
Max.1°·6 R'ge 22°·1	noon	118 0	104·4	87 6
Min. 69°·5 R'ge 22°·1	12 30	125 0	109 0	90 0
	10 30	111 0	104·0	83·6
13th.	10 50	118 0	110.0	84·2
Mean 78°·53	11·30	122 0	112 0	84.7
	12·00	123·0	115 0	86·2
Max. 90°·8 Rg'e 19°·8	12 20	121·0	113·0	87 6
Min..71°·0 Rg'e 19°·8	12 40	122 0	108·0	87·7