SCIENCE IN FRANCE.

PARIS, February 12, 1881.

There is so much at present which is both novel and important in the scientific world, that I fear, in my endeavors to do full justice to everything, I shall, by attempting too much, find myself in a position analogous with that of a certain unfortunate person mentioned in history, who, while striving to seat himself upon two chairs simultaneously, fell ignominiously to the ground.

But let us not waste time in odious comparisons! The news has probably long since reached you of a wonderful fossil forest which has recently been discovered in Hindoostan, and of a prehistoric grotto somewhere on the border line of France, containing various kinds of warlike weapons of an exceedingly primitive design, together with a single human tooth. It is not of these, however, that I intend to speak, as beyond the facts themselves nothing of particular interest remains to be told.

In the medical world a little instrument newly invented, is attracting considerable attention. It is called the *crayon feu* and is worthy of something more than a passing description.

That all intelligent physicians recommend instant cauterization when a person has been bitten by a mad dog, or indeed a dog of any sort, is a well-known fact. It is not, however, generally speaking, an easy matter to find an appropriate piece of iron and a lighted fire all ready for the operation, and consequently it usually happens that some time elapses before the remedy can be applied. Of course we all know that delay in such matters frequently proves fatal, and it was of this undoubtedly that Dr. Moser was thinking when he invented the tiny, portable apparatus which he calls the *crayon feu*, and which is so simply constructed that it can be used alike by physicians, travellers, hunters, or indeed any one who has either been bitten himself or who is required to treat another person.

This little instrument consists of a pencil made of some peculiar composition which ignites instantly when a match is applied to it and becomes red-hot while the patient's wound is being washed. The point of the pencil is then introduced directly into the wound, and the cauterization is performed in an instant. The patient merely experiences a slight sensation of being burned, as the operation is over before he is able to feel any definite pain. A little wooden or metal cover is placed over the pencil when it is not in use, and at the other end is a small receptacle for the particular kind of wax matches which are required to light it.

The *crayon feu* is indeed *multum in parvo* and can be carried in the vest pocket. Medical men, scientific societies, and all public administrations in Paris have given it a warm welcome—no pun is here intended—and their example has been followed by a host of others, while Dr. Moser himself, is looked upon as a veritable benefactor to humanity.

No less interesting are the curious experiments recently made by a Hungarian, M. Kerdig, by means of a combustible substance which is undoubtedly destined to be used at some future time for illuminating purposes.

M. Kerdig begins by placing upon a table a number of lamps filled with this fluid, which, indeed, gives forth a most brilliant light. He then announces to the interested spectators that it is in no danger whatever of catching fire or exploding, and in order to illustrate this fact so that even the veriest skeptic shall believe, he pours a quantity of the liquid upon his hat and calmly sets fire to it. A mass of lurid flame rises instantly almost to the ceiling, but M. Kerdig, in no wise disconcerted, places his hat coolly upon his head, and waits until the flame gradualty dies out. He then exhibits the hat triumphantly to the audience—it is uninjured. He next sets fire to the floor, then to his handkerchief, saturated with the substance, and finally goes so far as to pour some of it into the palm of his hand and light it; but the floor, the handkerchief and the hand are all alike unharmed.

Of course all this appears most extraordinary at first sight, but a little careful investigation is in this case, as in many others, capable of reducing mountains to mole hills. The vapor of M. Kerdig's mineral substance possesses considerable expansive force, so that in reality it is the vapor which burns and not the liquid. The latter being at a very low temperature, produces no sensation of heat upon the hand, notwithstanding the flame above.

Now, I suppose you would like to know of what this interesting product consists. M. Kerdig says that it is a very volatile essence of naptha, to which is added a compound of various evaporating substances. Other people, however, affirm that it is a product derived from natural oils recently discovered in Hungary, which, when properly distilled, results in a peculiar substance, very volatile, and, what is of still more importance, very cheap. A faint odor of petroleum pervades it, accompanied by a slight aromatic fragrance, and when spread upon the hand a sensation of cold is felt.

We have just received intelligence from the south of France of the terrible ravages made upon the olive crops this season by an insect designated by the entomologists as the *Dacusoleæ*. It is a little gray fly, with several legs, and long yellow antennæ. There are two generations of them every year, one appearing in July, the other in September. The eggs are deposited in the fruit, and the larva, which resembles a little yellowish-white maggot, consumes the pulp, intersecting it with tiny passages. The adult leaves the olive and makes its way to the ground, where it is transformed into a chrysalis and remains buried during the winter months.

Speaking upon agricultural topics reminds me of an unprecedented phenomenon which has just occurred in one of the districts of Jonzac. Upon the estate of a certain M. Delaume, who lives at Sèville, there is a grape vine which for five years has been infested with phylloxera, and the greater part of whose branches have borne nothing whatever—neither leaves nor fruit during that period. But a most unforeseen and extraordinary thing suddenly happened. From one branch, which has hitherto been looked upon as quite dead, has sprung a magnificent grape vine, well formed, and of a beautiful, dark green color. No one, as yet, has been able to explain this singular occurrence.

Still less can we account for another most remarkable event, a description of which I lately read in a Hungarian paper. A criminal, it seems, had been hanged, and the physician in attendance declared that life was quite extinct. An autopsy was subsequently made upon the body, and the latter subjected to the action of a strong galvanic current. Within the space of two hours, signs of life were distinctly observed. The dead man recovered his senses completely, but succumbed, on the second day following, to cerebral congestion.

If this account be true, we cannot too greatly encourage the use of electricity as a resuscitative and vital agent, nor can we fail to admit that the present age is one of unparalleled phenomena. COSMOS.

LAWS OF THE DISENGAGEMENT OF ELECTRICITY BY PRESSURE IN TOURMALINE.—The authors announce the following laws as resulting from their experiments:—The two ends of a tourmaline evolve quantities of electricity respectively equal, but of opposite signs. The quantity liberated by a certain increase of pressure is opposite in its sign, but equal to that produced by an equal decrease of pressure. This quantity is proportional to the variation of the pressure, independent of the length of the tourmaline, and for one and the same variation of pressure per unit of surface it is proportional to the surface.—M M. Jacques and Pierre Curie.