

for some days past, become uncommonly electric every time his hair was combed.

I found the Prince at his toilet, and observed, in fact, that, at every time his valet de chambre drew the comb through his hair, a pretty strong crackling noise was heard; and, on darkening the room, by drawing the curtains, the sparks were seen following the direction of the comb in great abundance, whilst the Prince, by this operation, was become so completely electric, that strong sparks could be drawn from his hands and face; nay, he was electrified when only powdered with a puff, the friction of the air against his hair being able to produce a considerable degree of electricity; a curious experiment which, however, but seldom succeeded afterwards, when I was desirous of repeating it. A few days after this scene with the Prince, I was witness to a still more striking effect of the electric state of our atmosphere at this period.

The Grand Duke sent for me one evening in the twilight, and told me that, having drawn a flannel cover off a green-damask chair in his bed-chamber, which had been put on by accident, he was astonished at the appearance of a strong brisk flame that followed it; but having immediately comprehended that it must have been an electric phenomenon, his Highness had been trying to produce a similar illumination on different pieces of furniture, and could now shew me a beautiful and surprizing experiment, that he had just discovered. His Highness then threw himself on his bed, which was covered with a damask quilt, laced with gold, and rubbing it with his hands, in all directions, the young Prince, who had then reached his twelfth year, appeared to be swimming in fire, as, at every stroke, flames arose all round him, which, darting to the gold lace border, ran along it, and up that of the bed, to the very top.

Whilst his Highness was shewing me his experiment, Prince Orloff, who had been making many different trials of his personal electricity, since the day I saw him at his toilet, came into the room with a sable muff in his hand, and shewed us that, by whirling it five or six times round his head in the air, he could electrify himself so strongly as to send out sparks from all the uncovered parts of his body; another proof that the simple friction of air against hair could produce electricity. Similar experiments were repeated in many houses of the city, whilst the strong frost prevailed, which shews that the uncommon disposition of bodies to electricity during the period treated of, was general.

These curious phenomena have appear-

ed from time to time since that epoch, particularly during the severe cold which has prevailed for some weeks past. A few days ago, a lady of my acquaintance informed me that, on having her head combed, not only her hair shewed the ordinary signs of electricity, but that, after the comb had been drawn through, it burst out in a most surprising manner, by the natural repulsion of the hairs, and occasioned, on rising upon her head, a most singular and disagreeable sensation, which would certainly have frightened her terribly if she had not instantly guessed the cause.

It must not, however, be taken for granted, that these appearances are quite common here, or that they appear every winter, although we never fail to have 24° and upwards of cold, by Reaumur's scale. No; to render these effects very remarkable, a great cold must have continued several weeks, without abating, as I shall explain in the sequel.

I shall here likewise account for a curious fact mentioned above, which must have drawn the attention of the reader, viz. that Prince Orloff became electrified whilst sitting at his toilet on a chair, on the bare floor, or on walking in the Great Duke's apartment, without any species of apparatus to cut off his communication with the naked boards; but he was in fact insulated in both situations, as the inlaid floors were become as completely ideoelectric as glass or resin, from the high-dried state to which they were reduced by an exsiccating quality of the atmosphere and constant waxing. Now, as I observe, Sir, that in your paper on our climate, you enter into some reasoning on these phenomena, I presume my opinion on them will not be disagreeable to you.

The great disposition, then, of air, and other bodies, to become electric, during great degrees of cold continued for a certain time, always appeared to me to be easily explained, that I looked upon it as a simple corollary of the best known of the laws of electric force, and as such, that it did not require to be deduced from it in a formal manner. However, that you may know on what I founded that supposition, I shall observe that, 1st, nothing indicates air, and other bodies, to contain, during severe frost, an atom of more electric matter than their mutual quantity; and they are certainly not in a state of spontaneous electricity, because, to render them electric, friction must be employed, as at all other times; so that all the uncommon appearances above mentioned are reduced to this, that, by means of friction, bodies, in the above state of the atmosphere, become