

though this is in only a few places, or in one single place, they have a right to complain, they always do complain, and we hope they always will. All attempts to offset a bad appointment with a good one or any number of good ones will be treated by them with indignant scorn. A good reputation is made not by a majority of good acts, but by uniformity of them. When Higgins was first appointed, a distinguished Republican politician in this city said: "That act will destroy the Cleveland Administration." "Why do you think so?" asked his interlocutor. "Because it takes away the moral superiority that carried the election," was the answer. This may be an exaggerated view, but it contains the germ of an important truth.

Prior to the election of 1884 it was one of the common jests of the Republican politicians, when a particularly bad nomination or platform was made, or a bad bill passed by their side, that probably the other side would "help them out." The meaning of this was, that the Democrats would be pretty sure to commit some greater blunder, and that the people would put up with the Republican bad thing in order to avoid the Democratic worse thing. This rule "helped out" so many times that finally they became reckless enough to nominate Blaine for President. The Democrats forgot their rôle that time. They did not help the Republicans out, but the people helped them out in a different sense, and they remain out yet. There are not wanting signs that the Republicans are going to take up the rôle of helping out, by doing or threatening to do things so much worse than keeping the Baltimore gang in office that the people will find themselves better able to stomach Higgins & Co. than the plans offered by the other side. Insults to the Chief Magistrate of the nation for his opposition to pension profligacy, for example, may countervail and overpower the just indignation which attends the distribution of offices in Maryland. The renomination of Blaine would certainly do so. But balking on the blunders of your adversary is very bad politics. The Republicans, after all is said, are more experienced and capable political managers than the Democrats, and in any controversy that is to be won by wits alone, they will in the long run outwit their adversaries. The Democratic party cannot possibly be the smarter of the two, but it may be the better. If it cannot be the better, and distinctly so, it will go out of power in the course of a very few years.

The plea now put in that Higgins is a good clerk and attends to his duties well, and that he has no real power, is not calculated to make any impression on the public mind, for two reasons. In the first place, the country is full of men, of Democrats if you please, of good reputation, who could also fill the place and perform the duties satisfactorily. If the office is not one of much responsibility, the field of choice is by so much the wider. Again, nobody is bound to accept the statement that Higgins performs his duties well, because the witnesses are under suspicion. The only persons having the opportunity to judge are interested to vindicate their own choice of him and their retention of him in the face of much

remonstrance and obloquy. We can cite at least one instance where he performed his duties so extremely ill that a well-ordered Administration would have dismissed him at once. We refer to his suppression of Secretary Manning's telegram to Appraiser Coombs. But, of course, the public have little means of judging of these things. Nor do these things much concern them.

EUROPE IN SUSPENSE.

PARIS, September 8, 1887.

NEVER, since I have been an observer of European politics, do I remember a time when the mutual relations of the great Powers have been, I will not say so unsatisfactory, but marked by so much distrust and uneasiness. I will not speak here of the relations between France and Germany: the Schnaebelé incident is still fresh in everybody's mind, and everybody knows that last spring a war was almost imminent; if it had not been for the energetic action of the President of the Republic and of the group of republicans who go under the name of Opportunists, and who determined to exclude Gen. Boulanger from the Cabinet, war was almost certain. Nor will I speak of the new attitude assumed by the German Government in Alsace-Lorraine, and of the measures adopted in these provinces since the last elections took place; without questioning the right of the German Government, it is enough to say that this new attitude creates a state of things which is a permanent danger.

If I examine the relations of France and England, I am obliged to confess that they are far from satisfactory. The time of the cordial alliance is past; the necessity of having a good understanding with our neighbors across the channel is no longer felt as it was once by the Government of Louis Philippe and by Napoleon III. By a curious coincidence, the French and English have never been socially so united and politically so independent. Paris receives every day hundreds of Englishmen; you can see English bars in every street of the quarter of the Madeleine and of the Champs Élysées; all our young men have learned the jargon of the turf; we have English tailors for men and for women; our worst novels have as many readers in London as they have in France; we exchange fashions, plays, books, reviews, newspapers. But this permanent social fusion has no effect on the political interests of the two countries. If you wish to have a proof of it, look at the history of the late Anglo-Turkish Convention, prepared by Sir Drummond Wolff, and rejected by the Porte. There never was a more extraordinary diplomatic incident. Sir Drummond Wolff was not a diplomat *de la carrière*, as we say—he had not been bred in the art of concealing artfully facts behind words; he had in this convention boldly and openly claimed for England the right, after she had evacuated the valley of the Nile, to reoccupy it in case of need and in certain emergencies affecting the material order and financial prosperity of Egypt. It was hardly necessary to put such a clause in the convention, as circumstances which would make an occupation of Egypt imperative cannot well be defined beforehand. Europe did not object to the existing occupation, though some of the Powers did not like it. Europe, in all probability, would not object any more to a reoccupation in a certain number of years, if this reoccupation seemed a necessity. "Il y a des choses," says Beaumarchais, "qu'il ne faut pas se dire à soi-même." *A fortiori*, you must not tell them to others. To assume in a convention a positive right of occupation at any time was to invade the rights of sovereignty of the Porte—which

which are still nominally recognized, and which form the basis of all conventions with the Porte.

M. de Montebello, the French Ambassador at Constantinople, had a conversation on the subject with the Sultan, and, following the instructions of his Government, represented to him that France could not accept the idea of a diminution, a division of his own sovereignty with England. The Sultan was, at the time, on the point of signing the convention; he was evidently moved by the argumentation of the French Ambassador, and was also reassured against the consequences of a rupture with England, when the French Ambassador went so far as to say that France would guarantee the Porte, at any risk and any price, against the selfish and ambitious designs of England. This was very strong language—so strong that in other times it would have seemed antecedent to open hostilities. The Sultan was so much impressed by it that he asked the French Ambassador: "Will you not let my first dragoman make a written note of what you have just said to me?" The French Ambassador could not well refuse; but the note had no official character. How it came into the hands of Sir Drummond Wolff, almost immediately, it is not for me to say, but those who are familiar with the ways of Constantinople will not be surprised at it. What is more surprising is that this informal note, this résumé of a conversation, made, not by the French Ambassador, nor revised or approved by him, found its way, with its strong, perhaps exaggerated, expressions, into a Blue Book presented to the English Parliament. Little has been said about this note in the English or French press; its gravity was such that it was felt imprudent to discuss it. At the same time, the note throws a great light on the actual relations of France and England, which are no longer what they used to be. England, since the rejection of the convention, simply maintains her position in Egypt; but the time will come when a diplomatic solution of the Egyptian problem will become necessary, and we do not see clearly what this solution will be.

If we look on the European continent, we find that the mutual relations of the three great empires are suffering a slow and gradual change. It seemed at one time as if this alliance of empires was a solid foundation of peace which could not be shaken; it was rendered apparent to the world by solemn and annual interviews. Everybody feels now that there is something rotten in the great alliance, though few know exactly where the rottenness lies. Are we to believe that the policy of semi-abdication which Austria has followed since the creation of a new German empire is on the point of coming to an end, that Austria will again be tempted to have a will of her own? Her statesmen have wisely united their action with the action of Germany for eighteen years; the Emperor has shown himself devoid of all petty feelings of vanity; he has consulted the interests of his numerous peoples and the interests of peace, instead of obeying his pride. But it was always felt by him, as well as by the greater part of his subjects, that he could not renounce one thing, which was the historical mission of Austria in the valley of the Danube and in the Peninsula of the Balkans; that his duties to Germany would cease if Germany sacrificed the interests of Austria to the interests of Russia.

Germany may well say that, so far, she has not sacrificed her Austrian ally; that she has allowed Austria to occupy Herzegovina and Bosnia, and that no limit has been fixed to this occupation, which has already assumed the character of an annexation. Germany may say, also, that Russia has not gained much in the Peninsula of the Balkans, and, in fact, we hear Russia complaining every day of the Treaty of Berlin. The

state of Bulgaria shows how difficult it has become to satisfy the feeling of Russia. Prince Alexander of Battenberg incurred the disgrace of the Emperor Alexander and left the country. After a long period of suspense, the Bulgarians have elected a new sovereign in the person of Prince Ferdinand of Coburg. Russia will not recognize him, and invites the Porte to join in her protest. Austria dares not give an open support to Prince Ferdinand, but evidently she would be satisfied with his becoming the sovereign of Bulgaria. A sister of Prince Ferdinand is married to the Archduke Joseph, the commander of the Hungarian Army. The father of Prince Ferdinand was, in his lifetime, a general in the Austrian Army, his mother, Princess Clementine, lives chiefly at Ebenthal, near Vienna. The choice of Prince Ferdinand has not satisfied Russia, and Prince Bismarck has immediately espoused the cause of Russia in this case: the strongest attacks on the young Prince have been made in Berlin. The situation of the Bulgarians is truly painful: they cannot obtain a ruler, meeting everywhere the resistance of Russia; they have had no government for two years, and Russia, though she hinders everything, proposes nothing.

This situation is very critical. England and Italy are inclined to take the part of Austria; France and Germany are courting Russia and trying to satisfy her, not because they care for Bulgaria, but because they are afraid of each other. The situation is such that not a single great Power knows exactly where she is going, who will be her friends to-morrow, who will be her enemies. Nobody wishes for war, and everybody feels that an incident may bring it about. The nations are living in darkness, and their rulers in fear. If you add to the uncertainty created by an absolute contempt for written treaties, by a complete disregard of old traditions, the uncertainty which arises from the great age of the Emperor of Germany, of his Chancellor, of the President of the French Republic, by the state of health of the Crown Prince of Germany, by the state of parties in England and in France, by the obscurity of the Russian policy, you must acknowledge that Europe, though she is now at peace, is in the most unstable equilibrium. The system of armed peace is becoming an almost insupportable burden for all nations; the neutrals are all alarmed, and take expensive precautions for their neutrality. The most dangerous illusions fill all minds: the French republicans, and even the French Communists, trust in the friendship of autocratic Russia; the Pan Slavists think that they can dispense with the culture of the Occident, and bring to the world a new ideal of right and of civilization. The Italians, instead of enjoying their new unity, and developing all the resources of their admirable country, have dreams of distant and of near conquests. A spirit of domination and of ambition has entered all souls: the people of the Peninsula of the Balkans, instead of forming a confederacy, meditate mutual absorption. The gates of the temple of Janus are still shut, but it is not because we love peace; it is because no nation can trust another, no durable alliances can be made, no common action can be prepared; because everybody feels that in the present condition of Europe the consequences of a great commotion can neither be foreseen nor limited.

THE ECLIPSE EXPEDITION IN JAPAN.

SHIRAKAWA, Japan, August 20, 1887.

The important day has come and gone—the eclipse is over, and the old castle, selected by Prof. Todd for the station, will again be left to its clematis and ivy, its lizards and crows; while the unwonted activity which has centred here

for the past few weeks will depart with the instruments and the white tents. Sixteen thousand miles of continent and ocean traversed for three wonderful minutes, and unremitting labor during every clear night, and on all days of whatever sort, all for that little time, which may be cloudy or not at its own sweet will. Such are the chances of an astronomer's life, but glorious his compensations when nature is kind.

The principal instrument used on this occasion for observing the eclipse was the photoheliograph, a form first devised by the late Prof. Winlock, and independently by Capt. Laussedat of France. It consists of a heliostat mounted upon a pier, the large stone for which was taken from the old castle wall only a few feet away. The heliostat has an unsilvered mirror set at such an angle that it shall reflect the sun's rays through a lens, and thence through a tube nearly forty feet long, into the dark-room or photograph house. The tube was in this case covered by a sort of roof and sides of bark to prevent its accumulating heat from the sun's rays, and thus disturbing the light in its passage. The mirror is a piece of plate-glass, polished with as great accuracy to a plane surface as the finest lens to a curved one, and it is left unsilvered because all of the sun's rays reflected into the dark-room would be too intense for the purpose. It is made to revolve upon an inclined axis in the same direction as the sun moves—from east to west, so that the direction of the reflected rays remains constantly unchanged. The actinic, or photographic rays, coming to a focus at a different distance from the ordinary optical rays by which objects are seen, the lens is corrected for the former. This instrument has never been used before to photograph an eclipse, and it was brought at this time for that purpose in order to obtain a more correct knowledge of the relative positions of the centres of the sun and moon than could be gained by observing merely the contacts.

The photographs of the partial phases are upon plates seven inches square, and it was intended to take fifty before totality and fifty after, while the corona photographed by this instrument would be given on a larger scale than ever before. The image, being formed nearly forty feet from the object-glass, makes the sun's diameter about $4\frac{1}{2}$ inches, on plates themselves 17×20 . Shortly before totality the mirror is exchanged for one which is silvered, with a surface as accurately figured and polished as the first one, all of the rapidly fading light being now required in the dark-room.

In order to manage the photoheliograph with proper precision, the services of six persons are ordinarily required. These should be the astronomer-in-charge, who makes the exposures at the proper moments, and the necessary records; the assistant astronomer, stationed at the heliostat, whose duty is to see that the sun's rays are constantly reflected in the proper direction from the mirror; and a photographer, with three assistants, to attend to the necessary manipulation of the sensitive plates. The services of an assistant astronomer could be dispensed with if the screws by which the heliostat is adjusted could be brought under the control of the chief astronomer in the photograph house. Chief-Engineer Pemberton, U. S. N., who was detailed with Lieut. Southerland from the Asiatic squadron to accompany the eclipse expedition, was occupied a large part of the time in the practical working out and applying this device, which was found to work admirably. This is so important an addition to the apparatus as heretofore operated, that it may well come into use on future occasions where the instrument is employed.

Prof. Todd placed the immediate direction of the photographic operations in charge of Mr. R.

Hitchcock of the Smithsonian Institution, now teaching in Osaka. He was ably assisted by Mr. K. Ogawa of Tokio and Miss Y. May King, M. D., a young Chinese lady who has recently graduated brilliantly in medicine in New York, and whose fine work at the Smithsonian with M. Smillie in microscopic photography has received much attention. Nothing was spared to make the photographic outfit as complete and thorough as possible, and a number of experimental investigations were undertaken for the solution of problems occurring for the first time in eclipse photography.

In order that pictures shall be available for scientific purposes of precision, it is necessary that some line whose exact direction and position are known shall appear upon each photograph; a small plumb-line of fine gold wire is therefore suspended in front of the sensitive plate. When the exposing slide is drawn and the sun shines on it, this line appears with great definiteness upon every picture of the sun which is made. When the eclipse has advanced to such a stage that the crescent is very slender, its light is not enough to show this line, and it was found necessary to devise some means of making it sufficiently luminous to show upon the plate. This was not an easy matter to accomplish. The outer light would not be strong enough to be used on account of the near approach of totality; and artificial light has not sufficient actinic effect to impress itself on the plate, except with a longer exposure than could be given to it at that varying phase when the exposures should follow each other in the most rapid succession. The problem was finally solved by throwing two rays or pencils of light upon the top and bottom of the plumb line, coming directly from a kerosene lamp placed upon a small elevator, to be raised and lowered by the hand immediately after the crescent had been exposed—thus giving virtually two exposures to each plate, and showing the plumb line as a delicate line of light, both above and below the crescent itself.

It is generally recognized that wet plates give the best results in the photography of astronomical phenomena, the only objection to them being that they cannot be manipulated as rapidly as required in eclipse photography. But it was considered inadvisable to employ the dry plates now so much used, on account of the high temperature, and experiments were therefore tried of different methods of preserving the sensitive film of wet plates prepared by the ordinary process. The results were wholly successful, even beyond expectation, and several sets of plates were prepared some hours before the eclipse began. Although it was intended that the preservative should do its work for four or five hours only, a number of plates were exposed in the photoheliograph on the day following the eclipse, and were found to give perfect sun-pictures although taken out of the sensitive bath more than twenty-four hours before they were exposed. These results are of great importance in connection with similar work in the future.

The Amherst College observatory furnished two of its object-glasses—of about seven-inch aperture—for this eclipse, one of which was used here and the other by Prof. C. A. Young at his station near Moscow. Prof. Pickering of Harvard College prepared and sent the sensitive dry-plates exactly alike for both, so that the results from the work at the two stations should be strictly comparable. The lens was here mounted in a temporary tube, and the instrument—called a coronagraph—was placed in charge of Lieut. Southerland, U. S. N., to operate during totality. This is the only eclipse occurring in recent years whose path has so traversed the earth that two civilized countries were near the extreme ends of the line of totality; and the same instruments