netism, by M. R. Blondlot. The author's experiments tend completely to confirm M. Ed. Becquerel's views regarding the mutual relations of paramagnetic and diamagnetic bodies. It is shown that these views are in no way affected by Tyndall's experiment, which fails to prove the existence of diamagnetic polarity, and which is perfectly explicable by Becquerel's theory.—On the electric phenomena produced by the ultra-violet rays, by M. Auguste Righi. In connection with M. Stoletow's recent communication on this subject, the author points out that several of the results here given were previously announced by him in a note presented to the Academy dei Lincei on March 4, and printed at the time.—On the acid phosphites of the alkaline metals, by M. L. Amat. To the acid phosphite of ammonia $(PO_3HO)NH_4O,HO$, previously prepared by him, the author here adds the corresponding salts of potassa and soda $(PO_3HO)KO,HO$ and $(PO_3HO)NaO,HO$, and explains their method of preparation.—On the crystalline form of the trithionate of soda, by M. A. Villiers. The author has succeeded in obtaining crystals of this substance, the measurements of which are here given.—On terpinol, by MM. G. Bouchardat and R. Voiry. It is shown that certain derivatives of the terebenthenes generally supposed to be identical with List's terpinol are really of different composition, although presenting some marked analogies with that substance.—M. G. Demeny describes a number of instruments which he has devised for the purpose of accurately determining the exterior form of the thorax, the extent of the respiratory movements, the profiles and sections of the trunk, and the volume of air inhaled and exhaled. The last-mentioned is described as a self-registering "spirometer."

BERLIN.

Physical Society, April 20.—Prof. du Bois-Reymond, President, in the chair.—Prof. Vogel communicated the results of his researches on the spectrum of carbon. In recent times the spectra of all the carbon compounds have been recognized as being those due to carbon itself, the sole exception being in the case of cyanogen, whose spectrum was considered to be that of the compound, not of carbon itself. The speaker had therefrom investigated the spectrum of cyanogen, with the help of photography. He obtained a spectrum which was marked, from the red to the ultra-violet, by very characteristic lines. The spectrum of a Bunsen burner was next photographed, and it was found that its first three lines coincide in all respects with those of the spectrum of cyanogen; in addition a series of lines lying between the above and also in the blue were found to be identical in both spectra. On the other hand, the two bands in the blue and ultra-violet were absent in the spectrum of the compounds of carbon and hydrogen, being replaced by a series of very characteristic double lines. Prof. Vogel next photographed the spectrum of carbonic oxide, and found that its more highly refracted portion corresponded completely with that of cyanogen. The bands in the blue and ultra-violet were particularly well marked, whereas the less highly refracted half of this spectrum did not correspond with that of cyanogen. Finally, the light emitted by the electric arc was photographed, and its spectrum resembled in all respects that of cyanogen. The speaker drew the conclusion from these observations that in all four cases he was really dealing with the spectrum of carbon. The differences in the several spectra are not dependent upon differences of temperature, inasmuch as the temperature of a Bunsen flame is higher than that of cyanogen, and notwithstanding this the latter gave a more highly developed and complicated spectrum. The speaker was much more inclined to assume the existence of modifications of carbon, of which one yields its spectrum in the Bunsen flame, the other in the flame of carbon monoxide, the two spectra being met with united in those of cyanogen and the electric arc respectively. In photographs of the solar spectrum, the dark background on which the line G is conspicuous shows such a marked correspondence with narrow bands in all the above four spectra that the existence of carbon in the sun must necessarily be assumed.—Prof. Vogel then spoke on colour-perceptions, which he explained by means of experiments. It is well known that when a colour-chart is seen illuminated by the light of a sodium flame it appears colourless: the yellow appears to be pure white, and the other colours appear gray, graduating into black. This result is not observed with other monochromatic light, such as that of thallium or strontium. The speaker was, however, able to produce the same result by means of coloured glasses, whether red, green, or blue; those colours always appeared to be white or very bright which most strongly reflected the light with which the colour-chart was illuminated, all the other colours appearing to be either gray or black. When a second monochromatic light was added to a previous one, such as blue to a yellow light, then definite colour-sensations were observed, which increased in number when a third source of monochromatic light was superadded to the other two. Prof. Vogel laid great stress on the perception of white by monochromatic illumination of a uniformly coloured field of view. He was not prepared to give any explanation of the phenomena, but simply to bring them to notice, with the intention of investigating them further.

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