and exposed to the action of the atmosphere, hydrazobenzol is gradually reconverted into azobenzol.

It deserves to be noticed that some of the chemists who have been engaged in the examination of benzidine must have occasionally worked with hydrazobenzol. Mr. Noble*, who many years ago prepared benzidine in my laboratory, especially remarks that the substance obtained by him is reconverted into azobenzol by the action of nitrous acid. I have satisfied myself that benzidine thus treated yields no trace of azobenzol.

From the experiments described, it is obvious that in the formation of benzidine from azobenzol two distinct phases have to be distinguished: in the first phase the molecule of azobenzol assimilates a molecule of hydrogen, but this hydrogen remains in a very feeble state of combination, being eliminated again by a great variety of agents. It is only under the influence of acids that the hydrogen molecule becomes incorporated in the system, if I may use this expression, and fixed benzidine, a substance of great stability, is formed.

Whatever view may be taken regarding the nature of azobenzol, the constitution of which it must be admitted is utterly unknown, the intermediate substance has to be viewed as its hydrogen compound, and it is this consideration which induced me to propose the name *hydrazobenzol*.

VI. "Note on the Composition of Aniline-Blue." By A. W. Hofmann, LL.D., F.R.S., &c. Received May 21, 1863.

The prosecution of my researches on the aniline colours has led me to a result of great simplicity, which I hasten to lay before the Royal Society.

Aniline-blue is triphenylic rosaniline.

Aniline-red, Rosaniline	$C_{20}H_{19}N_3$, H_2O.
Aniline-blue, Triphenylic Rosaniline	$C_{20}H_{16}N_3$, H_2O. $(C_6H_5)_3$.

The commercial article is a salt of the base, the hydrochlorate for example, the composition of which corresponds to the monatomic hydrochlorate of rosaniline.

* Chem. Soc. Quart. Journ. vol. viii. p. 292.

Hydrochlorate of Rosaniline	$C_{20}H_{20}N_3Cl$.
Hydrochlorate of Triphenylic Rosaniline ..	$C_{20}H_{17}N_3Cl.(C_6H_5)_3$.

Details of these experiments I hope to lay before the Society at an early meeting.

VII. "On the Calculus of Symbols."—Third Memoir. By W. H. L. Russell, Esq., A.B. Communicated by A. Cayley, F.R.S. Received May 15, 1863.

(Abstract.)

In my second Memoir "On the Calculus of Symbols," I worked out the general case of multiplication according to one of the two systems of combination of non-commutative symbols previously given. In the present paper I propose to investigate the general case of multiplication according to the other system. I commence with the Binomial Theorem, to which the second system gives rise. In my previous researches I obtained the general term of the binomial theorem when the symbols combine according to the first system by equating symbolical coefficients; here, on the other hand, I consider the nature of the combinations which arise from the symbolical multiplication, and obtain the general term by summation. I next proceed to the multiplication of binomial factors. Here the general term is obtained by considering the alteration of weight undergone by certain symbols in the process of multiplication. The multinomial theorem according to the second system is next considered and its general term calculated. I conclude the memoir with some applications of the calculus of symbols to successive differentiation. This paper completes the investigation of symbolical multiplication and division according to the two systems of combination, the general case of division having been worked out by Mr. Spottiswoode in a very beautiful memoir recently published in the Philosophical Transactions.

The Society then adjourned over the Whitsuntide Recess to Thursday, June 11, the President having announced the Meeting for the Election of Fellows to take place on Thursday, June 4, at 4 P.M.