

and the latter, by the action of liquor potass, and acetic acid ; the one reagent converts the bright yellow into a dark brown, and the other occasions effervescence ; results explained by the fact that Dutch pink consists of vegetable yellow, in combination with chalk, or carbonate of lime. The white powders used are usually kaaline, soap stone, or sulphate of lime, and although some clue may be obtained as to which of these is employed in any particular sample of tea, by the appearance of the leaves and the microscopic character of the powder, yet, in order to obtain decided results it is necessary to institute a chemical analysis. It appears that genuine tea contains five or six per cent. of gum. Therefore, if any considerable portion be found beyond this analysis, it may be presumed that something has been added, either for giving a gloss or curl to the leaf, or to fix other adulterating ingredients.

To ascertain whether any of the tea-leaves have been used before, the form of the dry leaves should be particularly noticed. If they want the characteristic twist ; if they be broken and agglutinated in little masses of irregular shape, there is a reason to suspect that the tea is spurious. Wash the sample for a minute or two in cold water, distilled, and, if they appear glossy, it is probable they consist of exhausted tea-leaves, made up with gum ; in which case they should be subject to a chemical analysis, when it will probably be found that the tannin and theine, which give to tea its peculiar colour and aromatic flavour, have almost entirely disappeared, leaving a greater quantity of lignin (or woody substance) and gum, in proportion to the bulk, than is contained in the genuine tea. The following table shews the per centage of lignin, gum, tannin, and colouring matter, and carbonate of lime, found in samples of genuine green and black, and in samples of tea which had been used before and were seized for being spurious in 1843. The proportions will form a good criterion for a chemical examination in future cases :—

	Lignin.	Gum.	Tannin and coloring	Carbon- ate of lime, &c.	Copper.
Green Tea, genuine.....	55.3	5.4	39.3		
	81.9	13.4	4.7		
Green Tea, containing exhaust- ed tea-leaves.....	84.9	6.8	1.1	4.0	3.2
	84.0	11.4	.8	3.8	
	87.5	4.8	.6	3.6	3.5
	71.5	12.0	14.6	1.9	
Black Tea, genuine.....	46.8	5.9	47.3		
	78.6	15.5	5.9		
	81.3	18.0	.7		
Black Tea, containing exhaust- ed tea-leaves.....	72.9	19.9	7.2		
	90.1	15.5	4.4		
	78.1	20.5	1.4		
	72.0	10.0	16.9	1.1	
	84.9	11.6	1.0	2.5	