

5. Prove that the following problem from the Equation Papers of St. John's College (Colenso's Algebra, Pt. II., p. 27) cannot be solved:

From the middle of a town two streets branched off, and crossed a straight river by bridges *A* and *B*. From their junction, a sewer, equally inclined to both streets, led to a point in the river distant 6 chains from *A*, and from *B* 11 chains less than the length of the sewer, the expense of making which was as many £'s per chain as there were chains in the street leading to *A*. The sewer proving insufficient, a drain was made from a point in this street, distant 4 chains from *A*, which entered the river at the same point with the sewer, and was equally inclined to the river and the sewer. Now, a drain down each street, at £9 per chain, would have cost only £54 more than the sewer. Find the lengths of the streets and sewer.

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6. *A* and *B* paid \$120 for 12 acres of pasture for 8 weeks, with an understanding that *A* should have the grass that was then in the field, and *B* what grew during the time they were grazing; how many oxen, in equity, can each turn into the pasture, and how much should each pay, providing 4 acres of pasture, together with what grew during the time they were grazing, will keep 12 oxen 6 weeks, and in similar manner, 5 acres will keep 35 oxen 2 weeks?

7. A steambot boiler 4 feet in diameter and 14 feet long (heated from beneath), has 60 flues, 4 inches in diameter, running the whole length. How many gallons of water would be required to fill the boiler after deducting the flues and reserving one-third of the whole space for the steam generated. In other words, find the length of the chord which will divide the surface of a circle into two parts in the proportion 2 : 1.

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Practical Education.

Queries in relation to methods of teaching, discipline, school management, &c., will be answered in this department. J. HUGHES, Editor.

HOW TO SPEAK PLAINLY.

VI.

SUBSTITUTION OF SOUNDS.

This error is chiefly confined to vowel sounds, but several of the consonants are also interchanged, especially by children and foreigners. Errors of this class are more difficult to remove than any others. They require the most careful ear-cultivation possible, and unremitting watchfulness for years, before they can be eradicated.

Consonant Substitutions.

T FOR D.

Examples.

Words for Words. Colts for Colds.

A very good example of a double substitution of these letters is found in the invalid's description of his cold. "I have a bat colt in my chest and it makes me very horse." This error results from the fact that *d* and *t* require the same arrangement of the vocal organs. It may be cured by allowing a part of the stream of sound which has been shut in by the meeting of the tongue and teeth to escape through the nasal passages when sounding *d*. *D* is a "sound" letter, *t* is merely a "breath" letter.

K FOR QU.

Examples.

Kotient	for	Kwotient.	(Quotient.)
Kotation	"	Kwotation.	(Quotation.)
Korum	"	Kworum.	(Quorum.)
Kota	"	Kwota.	(Quota.)
Koth	"	Kwoth.	(Quoth.)

Cause. *Q* and its inseparable companion *u* are equivalent to *Kw*, and this error consists in the omission of the *w*. The mistake is made only before *or* and *ot*. We never say *kick* for *quick*, *kiver* for *quiver*, or *cash* for *quash*.

Remedy. Acquire the *Kw* sound by *sounding* such words as *quick*, *quilt*, *quit*, &c., and then articulate it before *or* and *ot*.

F FOR TH.

Examples.

Fink	for	Think.
Fissel	"	Thistle.
&c.		&c.

Cause. Shutting off the air coming from the lungs by meeting the upper teeth and lower lips.

Remedy. The sound of *th* is made by placing the end of the tongue lightly against the points of the upper incisors, and forcing the air through the narrow passage thus formed. The tongue should never protrude beyond the teeth in properly uttering any sound in our language, but some can more easily learn to articulate this sound by allowing the point of the tongue to pass beyond the teeth.

Practise, Only think, Timothy, Thick. *ag*, thrust, three thousand thistles, through the thick of his thumb, last Thursday at 8 o'clock.

TH FOR F.

Examples.

Triumth	for	Triumph.
Lymth	"	Lymph.
Nymth	"	Nymph.
&c.		&c.

For the cause and cure of this error it is only necessary to reverse the instructions given in the last paragraph.

L FOR N.

Example.

Chimley for Chimney.

Cause. *L* and *N* are both formed by placing the tongue against the roof of the mouth. The difference between them is that part of the sound escapes through the nose when *n* is formed; *l* is a *breath* and *n* a *sound* letter.

Remedy. Pause slightly after the *m* in *Chim* before sounding the *ney*. Be sure to press the tongue firmly against the roof of the mouth in saying *n*, so that the sound may be forced partly through the nose.

D OR T FOR J, TH, CH, G, C, AND K.

Examples.

Doe	for	Joe.	Dood	for	Good.
1. Don	"	John.	4. Dirl	"	Girl.
Dis	"	This.			
2. Dese	"	These.	5. Dake	"	Take.
Tarles	"	Charles.	6. Tiss	"	Kiss.
8. Turn	"	Churn.	&c.		&c.

These errors are most common among children, but many persons retain them in their full impurity during their lives.

Causes. The cause of the substitution in the first three cases is, that the introductory sound of any word commencing with *J*, *Th* or *Ch*, is made by the same formation of the vocal organs that required for *d* or *t*. Those who err in these words merely make the introductory sound of *J*, *Th* or *Ch*. The cause in the last three