book is rendered more complete by a short account of Italian health resorts, Algiers, Egypt, Madeira, and Teneriffe. The book will be useful both to invalids who are meditating a winter abroad and to medical men by aiding them in the selection of the proper places to which to send patients.

Dr. Baréty's description of Nice and its climate is naturally very much fuller than Dr. Marcet's, and while the latter is a useful guide to the selection of a health resort, the former will be of great service to those who have already fixed upon Nice. The climate of this town varies very much in its different parts, and the proper selection of an hotel or residence is of considerable importance. As a guide in this, and also as a general handbook for reference when residing in the town, Dr. Baréty's book is to be recommended.

Vichy and its Therapeutical Resources. By Prosser James, M.D., M.R.C.P., &c. Fifth Edition. Pp. 84. (London: Baillière, Tyndall, and Cox, 1883.)

THIS is a small guide-book to Vichy, pleasantly written. It contains, as usual in such books, a general account of the place, its springs bathing establishments and environs, analyses of the waters, and an enumeration of the diseases in which they are said to be useful. We doubt whether the latter part will be of very much service either to medical men or to invalids; it might, we think, have been omitted with advantage.

LETTERS TO THE EDITOR

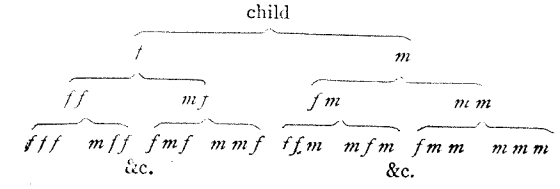
[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.*

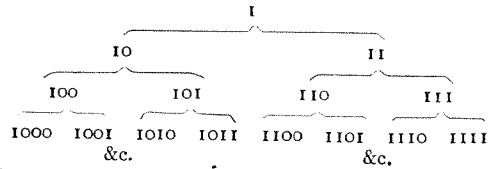
The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

Arithmetic Notation of Kinship

MANY writers have endeavoured to devise a simple method of describing the various forms of kinship, which, when expressed verbally, are cumbrous and puzzling in the highest degree. I suspect, however, that if we had always been as familiar with the binary system of arithmetic as we are with the decimal, that the facilities afforded by a numerical system of notation of kinship would have been so obvious that it would have been adopted as a matter of course. The notation I am about to propose is numerical, but it is not binary. It however contains implicitly, as we shall see, owing to the laws that govern numbers, the most important advantages of the binary notation, and it seems better to begin to explain it from the latter point of view.

The number of direct ancestors that a person has in successive generations is . . . 2^4, 2^3, 2^2, 2^1, followed by 2^0 for himself, the corresponding binary notations being 10,000, 1000, 100, 10, 1 respectively. We also see on a little reflection that, this being the case, every direct ancestor in the nth degree admits of being specified by a particular number, consisting of $n + 1$ places of figures. Thus the two parents may be represented by 10 and 11, the four grandparents by 100, 101, 110, 111, and so on. Let us draw up two schemes of ancestral roots, identical in arrangement, but using in the one the symbols of *f* for "the father of," and *m* for "the mother of," and employing binary notation in the other:—





We see (*a*) that if we disregard the child, and speak only of his or her ancestry, all the even numbers apply to one sex and all the odd ones to the other; (*b*) that each term is derived from its ancestral terms in so simple a way that it carries on its face every step in the line of descent, however long it may be, through which each ancestor is related to the child. Therefore, as I began by saying, if we were familiar with decimal notation, we should long since have described each form of ancestry by it. Instead of saying that "B was a grandmother, namely, a father's mother of A," we should have said "B was 101 of A." Or again, instead of saying that "C was first cousin once removed to D, the father's father's parents of C being the mother's parents of D," we should have said "the 1000-1 of C are the 110-1 of D." The case might have been one of half-blood, say by the father's side, then "the 1000 of C would be the 110 of D," a notation which grows in simplicity as the verbal equivalent grows in complexity.

Being, however, unfamiliar with binary notation, we fall back on the decimal, and translate the above numbers into their equivalents, which are those I propose for the arithmetic notation of kinship, as entered in the table below.

Table of Ancestral Roots

Grade of kinship.	Father's side.	Mother's side.
Child	1	
Parents	2	3
Grandparents ...	4 5	6 7
Great-grandparents	8 9 10 11	12 13 14 15
&c.	&c.	&c.

The sex of 1 is unspecified, it is equivalent to the word "child," but all other odd numbers refer to females, and all even numbers refer to males. If n is the register number of any ancestor, the register numbers of his parents are $2n$ and $2n + 1$. We can thus construct or analyse any register number with great facility. It is not worth while giving an example of construction, but I may give one of analysis. I write down the number and append to it a series of successive halvings, so far as the numbers are, or come out, even; otherwise I substract 1 before taking their halves. Then I write *f* (= father of), or *m* (= mother of), as the case may be, below each entry. Let 253 be the number, then I get—

253	126	63	31	15	7	3	child
m	*f*	*m*	*m*	*m*	*m*	*m*	child

For purposes of exhaustive inquiry into the antecedents of a family, this notation has the advantage of an index, and of showing very compendiously how much has been done, and how much remains to do.

FRANCIS GALTON

"Stachys palustris" as Food

THERE is no reason to think that *Stachys palustris*, L., is anywhere used now for food in the British Isles. The cultivation of the potato must have long since put it out of court for any such purpose. But that it was once so employed there seems abundant evidence. The part eaten, however, was not the "rhizomes," but the subterranean tubers. That the use of these is now quite forgotten may be inferred from the fact that the tubers themselves are not even mentioned in standard systematic books. Yet Irmisch (see *Botanical Gazette*, vol. ii. p. 293) gives the potato and *Stachys palustris* as well known instances of dicotyledonous plants producing stem tubers which become detached by the dying away of the older parts of the parent plant which produced them.

Johnson, in the second edition of Gerarde's "Herbal" (1636), has nothing to say about the edibleness of the tubers. But he