stellung' from *cvasta-*, as propounded by Bopp. For 'seventh' we have a marked evidence of the capriciousness of language. The Greek for the first time gives the μ suffix in $\xi\beta\delta o\mu o\varsigma$, while the Zend perversely has *hapta-tha*, here preferring the dental, though the *m* reappears in the following *astēma*, *nauma*, *dasēma*, corresponding as close as may be to the Sanskrit *ashtama*, *navama*, *dasama*. The Lithuanian again has confirmatory evidence for us in the fact, that, although *septun-ta-* and *asztun-ta-* are the ordinary terms for seventh and eighth, the language also possesses *sekma-* and *aszma-* in the same sense. It is clear then that such a form as $\delta\epsilon\kappa o\mu o\varsigma$ within the Greek domain would not have been any anomaly; and the loss of the guttural before an *m* is not only the universal law in Latin, as in *flama* or *flamma*, *examen*, *contaminare*, *stramen* &c.; but obtained also to some extent in Greek. Thus $\pi\upsilon\tilde{\alpha}\gamma\mu\alpha$ has a circumflex, because the γ was silent. In $\alpha\acute{\iota}\mu\alpha$ from *αισσω* the guttural is not even written. 'Ημεις and ἡμετερος are derivable from a base $\xi\gamma\mu\epsilon\tau-$, represented in Latin by *egomet*, and in Sanskrit by *asmat-*. Much in the same way an Englishman writes *phlegm* and pronounces *phlem*. Perhaps the guttural in such cases may have first passed into an *s*, as in the Latin *decumus*, *decimus*, *disme*, *dime*. Indeed the verb $\delta\epsilon\omega$ from which we started, must once have had a guttural,—as its Latin analogue *ligare* (whence indeed *limen* for *ligmen*), and its English analogue *tie*, whence *tight*, clearly show.—Thus the σ in $\delta\epsilon\sigma\mu o\varsigma$ probably represents a guttural. I may as well add that the evidence for regarding a $\delta\eta\mu o\varsigma$ as a tenth of a tribe is not altogether satisfactory in itself, but receives strong support from the here-proposed etymology.

XXII.—ON THE CONVERTIBILITY OF *N* AND *D*.

BY PROFESSOR KEY.

In a paper which I read before the society on the equivalents of the Greek preposition *ανα* in cognate languages, I gave my reasons for believing that *ad* in Latin verbs is

at times the representative of that preposition; and some arguments, partly founded on first principles, partly on the historical evidence of related words, were adduced in support of the assertion that the letters *n* and *d* are interchangeable. These arguments as well as the truth of the assertion have since been disputed by two German scholars whose authority deserves much respect; by one in Kühn's *Zeitschrift*, by the other in our own pages.

As the results of my paper on *ανα* appear to me important if true, and as I also firmly believe them to be true, I am desirous to consider the question at somewhat greater length than was consistent with the multifarious character of that paper, which rendered any great detail on minor topics inconvenient; and indeed I did not then suppose that the principle would be anywhere disputed.

The consonants *n* and *d* belong of course to the dental family; and it may perhaps be affirmed that *n* stands to *d* in the precise ratio so to say of *m* to *b*. Now the ready convertibility of *m* and *b* is not only past dispute, but I believe universally admitted. Thus the insertion of a foreign *b* in such words as *μεσημβρια* and the French *nombre* &c. is exactly parallel to the insertion of a foreign *d* in *ανδρος* and the French *cendre* &c.

I had thought too that some reliance might be placed on the physiological argument that as under the influence of a cold the letter *m* becomes a *b*, so under the same circumstances the letter *n* becomes a *d*, for after all those changes which are established between letters on the direct evidence of language must admit of explanation on physical principles. Why for example is the negro apt to substitute *b* for *p*, but because his lips are of thicker formation? We may not always be able to trace the facts of linguistic science to their causes; still we do know practically from repeated experience that a common effect of a catarrh is to change every *n* to *d*. In my paper I referred to a case I had myself recently heard of the name *Minnie* under these circumstances being replaced by *Biddie*; but I might with greater advantage have pointed to the more familiar example

of Barney in *Oliver Twist* whose never-ending cold supplies a never-ending series of such substitutions.

But leaving principles, let us next consider facts, and first those which present themselves within the limits of the Greek language itself. 1. Of the verb *ραινω* 'I sprinkle' *ραν-* is the essential part, but this appears as *ραδ-* in the perf. pass. *ερ-ραδ-αται*, and past perf. *ερ-ραδ-ατο*. 2. *Χαινω*, I yawn, and *χανδανω*, I am capacious, are commonly regarded as verbs intimately related, yet their ultimate syllables are respectively *χαν-* and *χαδ-*. 3. The verb *φραζω* has for its crude form *φραδ-*, as seen in the epic aorist *επεφραδον*, and the derived nouns *φραδη*, *φραδμων-* &c.; and the original meaning of these words, as *give to know*, *devise*, *come to know*, *understanding* &c., all point to the substantive *φρεν-* as closely related. 4. *Καινομαι* may well be regarded as representing an older *καν-νυ-μαι*, if we follow the analogy of *ταλαινα*, *τερεινα* for *ταλαν-να*, *τερην-να*; but instead of *καν-* we find *καδ* in the Pindaric perf. part. *κε-καδ-μενο-*. The occasional appearance of a *σ* in the root-syllable as *κεκασται*, *εκεκαστο*, *κεκασμενο-*, need not alarm us, for we also find the sibilant in some of the preceding verbs, as *ε-φρασ-θην*, *φασσατε* and *φασμα*. 5. From *ελαννω* we have an Homeric *εληλαδατο* or *εληλεδετο*. 6. From the verb *εὔδω* 'I sleep' it seems harsh to tear away *εὐνη* 'a bed'. 7. The Latin noun *rob-ur*, if we are to follow the analogy of other neuter nouns in *es*, *er* &c., such as *genus*, *tuber*, *frigus*, points to a verb as constituting the first syllable. On the other hand we are led to suspect a close connection between this syllable *rob* and our own *hard*¹, seeing that the meanings are fundamentally the same, and a *b* after an *r* in Latin is generally represented by a *d* in English (cf. *word*, *beard*, *gourd*, *red*, with *verbum*, *barba*, *cucurbita*, *ruber*). On the other hand if we follow the analogy between *red*, *rub-ero-*, and the Greek *ε-ρυνθ-ρο-*, and of *lobb-ero-* or *lib-ero-* 'free', with *ε-λευνθ-ερο-*, we may expect in Greek

¹ For the appearance of an *h* and the altered position of the liquid, compare *horse* and Germ. *ross*, also *red*, *rush*, *run*, *rich*, with the West of England *hird*, *hirsh*, *hirm*, *hirch*.

a form $\rho\omicron\theta$ or $\rho\omega\theta$ to represent *rob* of *rob-ur*. But instead of a θ to represent the *d* of *hard* we find a ν in $\rho\omega\nu\nu\mu\iota$, which again becomes a σ in $\epsilon\rho\rho\omega\sigma\theta\alpha\iota$. 8. So again a *d* in the English word *mad* corresponds to a ν in $\mu\alpha\iota\nu\omicron\mu\alpha\iota$ and $\mu\alpha\nu\alpha$. 9. But the best example for the purpose of shewing that *av* of the Greek *ava* may correspond to *ad* in Latin is the verb $\beta\alpha\iota\nu\omega$, *C. F.* $\beta\alpha\nu$ - which in Latin is *vado*, *C. F.* *vād-*; and indeed in Greek itself we find $\beta\alpha\delta\omicron\varsigma$, a walk, together with its derivation $\beta\alpha\delta\iota\zeta\omega$. In the examples quoted thus far it may be observed that *a* is the prevailing vowel before the ν or δ . In one case indeed — $\phi\rho\epsilon\nu$ - and $\phi\rho\alpha\delta$ - — an ϵ preceded the nasal; and again in one instance we had a still greater variety in the vowels, viz. *hard*, *rob-ur*, and $\rho\omega\nu\nu\mu\iota$, to say nothing of the suspicion that the first nasal of the Greek represents the aspirate θ . As regards the vowel of $\phi\rho\epsilon\nu$, the same preference of an ϵ before ν , and of α before a dental mute is seen in $\beta\alpha\theta\omicron\varsigma$ and $\beta\epsilon\nu\theta\omicron\varsigma$, $\pi\alpha\theta\omicron\varsigma$ and $\pi\epsilon\nu\theta\omicron\varsigma$. It is not without some bearing on the question before us that θ and ν are of ready interchange. Thus beside $\rho\alpha\iota\nu\omega$, *C. F.* $\rho\alpha\nu$, the grammarians give us the equivalent forms $\rho\alpha\theta\alpha\iota\nu\omega$, $\rho\alpha\theta\alpha\sigma\sigma\omega$. So $\kappa\epsilon\nu\omicron\varsigma$ and $\kappa\alpha\theta\alpha\rho\omicron\varsigma$, $\mu\alpha\nu\theta\alpha\nu\omega$ and $\mu\epsilon\nu\eta\mu\alpha\iota$ ($\mu\epsilon\nu$ -) are closely connected. May I then hint a suspicion that $\gamma\alpha\nu$ of $\gamma\alpha\nu\mu\alpha\iota$, be happy, is the root whence is derived the adj. α - $\gamma\alpha\theta$ - $\omicron$ -; and whether this be admitted or not, I venture once more to place together as related words several quartettes of which I have spoken elsewhere: 10. α - $\gamma\alpha\theta$ - $\omicron$, *L.* *bono*- or *beno*- (of the *b* presently), *E.* *good*, *G.* *gut*; 11. $\mu\alpha\theta$ - of $\mu\alpha\nu\theta\alpha\nu\omega$ with $\mu\epsilon\nu$ - of $\mu\epsilon\nu\eta\mu\alpha\iota$, *L.* *men*- of *memini* and *mens*, *E.* *mood*, *G.* *muth* and *wuth*; 12. $\pi\alpha\theta\nu\eta$ or $\phi\alpha\tau\nu\eta$, *L.* *penus*, *E.* *food*, *fodder*, *G.* *futter*;—groups of words, the consanguinity of which in several respects receives conformation from 13. $\gamma\epsilon\nu\tau\epsilon\rho$ Hesych (= $\gamma\alpha\sigma\tau\epsilon\rho$ -) and $\gamma\epsilon\nu\tau\alpha$ (= $\epsilon\nu\tau\epsilon\rho\alpha$) Callim., *L.* *venter*, *E.* *womb* (or Scotch *wemb* ‘belly’), *G.* *mutter* ‘womb’; 14. $\omicron$ - $\delta\omicron\nu\tau$ -, *L.* *dent*-, *E.* *tooth*, Moeso-Gothic *tunth*; 15. $\gamma\epsilon\nu\nu$ - ‘jaw’, *L.* *mento*-¹, *E.* *mouth*,

¹ In saying this I do not deny the connection of *L. gena*, *E. chin*, *G. kinn*, with the same $\gamma\epsilon\nu\nu$ -.

prov. *mooth*, G. *mund*. In all these words the Latin form exhibits the combination *en*, while the English invariably has the sound *oo* followed in most instances by a *d*; and again the German in every case but one has a simple *u* followed commonly by the sound of a *t*. Elsewhere I have given some reasons for connecting our *good* with *bonus* or *benus*; but I believe myself now able to throw more light on the subject. The sound *oo* I would affirm generally is apt to take the form *we*, and above all when the next syllable contains a weak vowel, that is *i* or *e*; and especially is this common when the *oo* is preceded by a hard *g*. In the Breton this is well exhibited in the conjugation of the verb *gouzont*, savoir, whence we have a pres. *gouzon*, je sais, *gwienn*, je savais, *gwéiz*, je sus, *gwéinn*, je saurai, *gwézit*, sachez, *ra wézin*, que je sache, *gwézet*, su. Again as the Scotch prefer *wemb* to the broad vowel of our *womb*, so in Aberdeen there occurs, says Jamieson, the variety *gweed* for *good*. Thus from our positive *good* there might well be deduced a comparative *gwetter* which by no violent change might pass into *wetter* or *better*. On the other hand we know historically that an earlier form of *bonus* was *duonus*, and the same digamma is still heard in the Italian *buono* and Spanish *bueno*. Yet even now I have arrived, it may be objected only at an initial *d*. My reply is that the Latin exhibited a soft dialect of the old language of Italy; and that if there had been transmitted to us the more guttural dialect of Etruria of which Martial speaks, we should in all probability have had the form *guono*-. I found this believe on the parallel case of the noun *bello*-, war, which in old Latin was *duello* and is represented in modern Tuscan by *guerra*, whence the French *guerre*, and our *war*. Initial medials when followed by a *w*, *r*, *l*, or *n*, are apt readily to interchange. Thus *γλυκς* through *δλυκς* is connected with the Latin *dulcis*; *βαρς* through *βραρς* with *gravis*. So we have dialectic varieties *γνοφς* and *δνοφς*, *βλεφαρον* and *γλεφαρον*, *βληχων* and *γληχων*, and *hausen-blase*, i. e. the bladder of the sturgeon, has been corrupted by us into *isinglass*. Thus I feel assured that *bonus* and *good*, *mens*

and *mood*, *penus* and *food*, are satisfactory examples of the rulerchange between *n* and *d*.

No doubt there are cases where the passage of a *d* to *n* has been facilitated by the proximity of an adjoining *n*; and I readily assent to Dr. Aufrecht's explanation of the Welsh changes in *saith nant* for *saithen dant*, *fŷ dysgu* for *fyn dysgu*. On the other hand I find in this very language unmistakeable evidence of the principle for which I contend in the fact that the prefix which represents the Latin *con* or *cun*, Gr. *συν*, takes the several forms *cym*, *cyn*, *cyd*, and *cy*, among which *cyd* seems to occupy a leading position and not to derive its *d* from any principle of assimilation. Thus we meet with it prefixed to almost every variety of initial letters, *cyd-addoli*, *cyd-bechu*, *cyd-chwant*, *cyd-dynu*, *cyd-enu*, *cyd-fwriad*, *cyd-ganu*, *cyd-hanfod*, *cyd-ieuad*, *cyd-lechu*, *cyd-newid*, *cyd-oed*, *cyd-rathiad*, *cyd-sain*, *cyd-uno*, *cyd-wynebiad*, *cyd-yfed*.

To these examples of the interchange of *d* and *n* may be added those which I adduced in my original paper on *ava* in the Society's Transactions for 1854, pp. 29-72.

I will conclude with what bears upon another part of my paper on *ava*. I have recently observed that in Livy *ad-surg-ere* means 'to rise again', where the idea contained in the last word, can only be due to the prefixed *ad*, so that we have another argument in favour of the doctrine that *ad* often represents *ava*. The examples which I have noted, are:

XXII. 2. Galli neque sustinere se prolapsi, neque adsurgere ex voraginibus poterant; XXI. 36. Tetra ibi luctatio erat.... in prono citius pede se fallente, ut, seu manibus in adsurgendo seu genu se adjuvissent, ipsis adminiculis prolapsis iterum corruerent; XXII. jam pervenerant ad loca nata insidiis, ubi maxime montes Cortonenses Transumennus subit: via tandem interest perangusta velut ad id ipsum de industria relicto loco: deinde paulo latior patescit campus, inde colles adsurgunt (or rather *ad-insurgunt* which makes equally for my view).