practices. St. Patrick, we know, was a Frenchman, and was educated in France; St. Columbanus, also, travelled in France. St. Declan, who it is said built the town at Ardmore, travelled to Italy. Vergilius, in the eighth century, was an Irishman, and, like most of his countrymen at that period who were distinguished for learning, left his own country, and passed into France. De Caumont's words are ("Cours d'Anti-

quites," vol. vi., p. 349):—
"Crosses of Cemeteries.—Crosses raised in the centre of church-yards are also objects deserving of study, when they are ancient; for I am persuaded that, in the middle ages, they have in many burial-grounds taken the place of the towers of which I have spoken; at the present day, they have taken their place in many sites. The most ancient I know of are of the twelfth, or about the end of the eleventh century. They are most frequently simple crosses, enclosed in a circle, and raised on a square, or sometimes on an octagonal, pedestal. In Brittany, crosses have been erected on which are sculptured rather complicated groups of figures, and of a workmanship the more remarkable, as they are in granite."

Crosses like the first mentioned are found at Glendalough; and crosses like those in Brittany are to be met with at Monasterboice, Clon-

macnoise, and other churchyards.

Dr. Robert M'Donnell read a paper "On the Organs of Touch in Fishes."

Mr. John Morisy read the following-

INQUIRY INTO THE EXISTENCE OF A PURE PASSIVE VOICE IN HINDUSTANI.

In his "Hindustani Grammar," published at Calcutta, 1798, Dr. Gilchrist gave an exposition of the Preterite tenses, which has been repeated by subsequent grammarians, and by none more distinctly than by Dr. Forbes, who, nevertheless, leans heavily on his distinguished predecessor. Gilchrist did not please himself; but Forbes, although he has done as little as the former, seems self-satisfied; and, like him, frames his rule respecting the "Agent with Ne," on the supposition that the Preterite tenses are Active—a theory which I shall show to be untenable.

That Dr. Forbes accepts them as Active, we have abundant evidence in his "Hindustani Grammar."

- 1. He leaves them in the paradigm of the conjugation of a transitive verb. Had he thought them Passive, he would have separated them.
- 2. He introduces them, p. 54, with this observation: "All the nominatives assume the case of the agent, characterized by the postposition ne;" but it must be allowed that this expression is not decisive. for the agent case and the nominative are confounded.

- 3. Had Forbes taken the Passive view, he would not have been under the necessity of writing (p. 105): "The only real difficulty likely to arrest the progress of the learner consists, not in the use of ne to express the agent, but in that of ko to define the object of a transitive verb (scil. in a preterite tense.)" Nothing could be more conclusive; he calls the verb, when ne is used, transitive.
- 4. Dr. Forbes says, again, that it does not fall within his province to account philosophically for the mode in which this particle (ne) is applied. If he had held the Passive doctrine, he would have been in no want of philosophy.
- 5. "It is a form of construction," he adds, "very common in Sanskrit." So it is, but he derived no light from the Sanskrit. In this language the past participle is often verbalized by putting a pronoun or noun before it, and then both constitute a preterite passive, which is followed, when needful, by the instrumental case. In Sanskrit, the most common termination of this case is na, which is the origin of the Hindustani postposition ne. I refer to Professor Williams' Sanskrit Grammar, p. 320, where, however, he graciously leaves me the honour of establishing the legitimacy of the Preterite tenses to a purely Passive character. The Sanskrit construction here noticed is, without doubt, the origin of the like form in the Hindustani; and is in itself a conclusive demonstration of the correctness of the judgment which pronounces the Urdu Preterites to be pure Passives—a judgment which I propose to establish by a rigid investigation.

The Passive character will be easily ascertained from the examination of a few simple sentences, presenting all the varieties connected with the Preterite tenses. To understand the argument, all that is necessary is a knowledge of any inflected language, of the true nature of a Passive phrase, which our Hindustani scholars appear to have ignored, and of these few particulars: A postposition requires the preceding noun or pronoun to be inflected, visibly or virtually. Feminine nouns are not inflected in the singular; nor masculine (including participles), unless they end in alif(a). The plural inflection always ends in on. The termination (a) is mas. sing.; e is the corresponding plural; i is fem. sing.; in its plural. The present participle ends in ta, and is verbalized by simply giving it a subject; the passive drops the t, is verbalized in the same way, and thus affords the Preterite tenses. I take to be pure Passives. The received opinion is, that the Passive voice can be formed only by means of the auxiliary jáná, "to go, or to be;" but a Passive, even of this kind, is rejected by the ablest of the native grammarians, of whom the most distinguished is Muhammad Ibrahim, of Bombay.—(Vide Tufháe Elphinstone.)

The character of the verb is assertion. When the verb is Active, its subject is the agent of the action; its object, the thing acted upon. When the verb is Passive, the object of the Active form becomes the subject of the assertion, and therefore is in the nominative case; and the agent is in an inflected case, with or without a governing preposition: that this should not be superfluous seems strange.

The statement of the construction of the preterite phrases, as laid down by Gilchrist, Shakespear, Eastwick, and Forbes, is, in Forbes's words ("Gram.," p.103, ed.1860): "The verb agrees with the object in gender and number; unless it be deemed requisite to render the object definite by the addition of ko, in which case the verb remains in the simple form of the third person singular masculine."

This rule is exactly adapted to the appearances, but gives a false account of the process by which they are produced. If you follow it in writing, the principles, though erroneous, will eventuate in correct results.

That the object indicated here is the object of the preterite as an Active tense, has been shown at 3, supra; but that the question may be more clearly comprehended, it is better to examine a few sentences, on this supposition, and this will be doing no more than following the exact words of Dr. Forbes's rule.

In the sentence-

we are told that *larki* is the object; if so, us is the subject of mári. Here we have an inflected nominative, and the verb, instead of agreeing with it in the masculine, agreeing with the object in the feminine. Us is the singular inflection of wuh, "he," and governed by the postposition ne; which is the most frequent termination of the instrumental case in the Sanskrit. Our unmerciful authorities, then, force on us the casus obliquus as the casus rectus, and confer on the object the governing powers of the subject or nominative.

This ablative-nominative is fatal to the theory of the rule; it is opposed to all our cognizances, and subversive of all grammatical principles. It so bewildered Gilchrist, that, at one time, he calls ne an expletive, and at another he incorporates it with the agent, as part of the nominative. This leaves no doubt whatsoever as to his views.

In Hindustani there are two forms of the Accusative: one is the same as the Nominative; the other is associated with the postposition ko, and therefore in an inflected state, whether it show itself so or not. Now, taking larki as a nominative, and mari as passive, we can, in accordance with every known principle of general grammar, translate the above sentence thus:—

"The girl was beaten by him."

If ko be introduced into the construction, the phrase becomes—

- (B) us ne larki ko márá, "He beat the girl;" and, making larki plural,
  - (C) us ne larkiyon ko márá, "He beat the girls;"

in both of which I have no nominative, but two inflected cases. The verb is in its simplest state, owing to the presence of ko, whose influence bound Gilchrist and the rest more closely to their errors, whilst it had quite a contrary effect on me. I took it as it came, gave it its real value, and, still adhering to my Passive speculation, escaped from all danger by translating thus:

"As to the girl (or girls) it was beaten by him."

The impersonal form presented no impediment, for many verbs are so used in Hindustani; and as in Arabic, which has no grammatical neuter, the names of natural neuters are mostly feminine. As there is no neuter in Hindustani, the masculine is here used instead; and, consequently, I looked upon the masculine singular,  $m\acute{a}r\acute{a}$ , as that "petrified neuter" which Bopp describes as unconscious of gender. Having taken this view, I found myself at liberty to give a smoother translation:—

"As to the girl, she was beaten by him."
"As to the girls, they were beaten by him."

The absence of concord suggested no difficulty: (1.) because the subject of the verb is indirectly mentioned; and (2.) because the Hindustani shows a willingness to dispense with inflection, whenever its absence does not give rise to ambiguity; thus, achehi kitaben is used for achchi, yan kitaben, "good books." Moreover, I saw no objection to the neutral and singular state of márá, upon any general principles whatsoever. We find a Greek neuter plural, and an Arabic broken plural, take a verb singular; and also an Arabic numeral under three, and another between three and ten, require a different construction. We do not complain; we discover a peculiar usage, and register it beside the leading rule. But in this case there is really nothing peculiar; for the verb, being impersonal, must be in the singular number, and must be deemed to be in the neuter, though the gender cannot be formally exhibited as it can in ventum erat ad Vestæ.

Let me now submit all the varieties of the preterite phrases, the consideration of which will conduct to a clear understanding and determinate judgment. Eight may be written without ko, and eight with ko; but of these latter two will be sufficient. There may be sixteen others by making the agent masculine, but the change would not alter the argument.

1. 'Aurat ne lark'ı már'ı.

2. 'Aurat ne larká márá.

3. 'Aurat ne larkiyán márin.

4. 'Aurat ne larke måre.

5. 'Auraton ne larki mari.

"The woman beat the girl."

"The woman beat the boy."

"The woman beat the girls."

"The woman beat the boys."

"The women beat the girl."

- 6. 'Auraton ne larká mórá. "The women beat the boy."
  7. 'Auraton ne larkiyan márin. "The women beat the girls."
- 8. 'Auraton ne larke mare. "The women beat the boys."

In this series, if we follow the Active hypothesis, concord between the subject (as assumed by Gilchrist and Forbes) and the verb, is visible only in the first and seventh; thus (1.) 'aurat and mári are fem. sing.; (7.) 'auraton and marin, fem. plur.; but (2) 'aurat is fem., and márá mas.; (3) 'aurat is sing., and márin plur.; and so of the rest. On the Passive theory, there is concord throughout; taking the sentences consecutively, larki and mári agree; larká and márá; larkiyán and márin; and so to the last ('aurat, woman; larki, girl).

In four of the remaining varieties we have such forms as-

3. 'Auraton ne larkiyon ko márá. "The women beat the girls." 8. 'Auraton ne larkon ko márá. "The women beat the boys."

In these, concord acts no part, and we must seek for the principles of the construction in some other direction. We shall find them in the Passive theory, and only there.—See (B) and (C). Those principles are embodied in the following statement, against which, as no argument can be produced, so no authority can avail; and least of all that of the Munshis, who have no clear perception of what the Passive voice is. Taking the Preterite phrases by their weight, instead of their construction, they totally misconceive them. Even among ourselves we have Munshis, who judge by form, instead of function. Drs. Bosworth and Crombie deny the existence of an English passive verb, because it is not built on inflection. On this point Dr. Stoddart writes ("Encyc. Metrop.," Art. Grammar, p. 48):—"In the distinction of verbs, as in most other parts of grammar, we find grammarians continually confounding signification with form."

Professor Kay's views of the Latin Passive Voice are very extraordinary, and serve to throw it greatly into the shade. In his "Latin Grammar," p. 52, he sketches a Passive Verb thus:—"When the source of an action, i. e. the nominative, is not known, or it is thought not desirable to mention it, it is common to say that the action proceeds from the object itself. A reflexive so used is called a passive." Supposing this language to have some meaning, it is evident that the object must be known to us. As the action proceeds from that object, we arrive at the source of action, i. e. the nominative, which therefore becomes known; and so the reflexive or passive is miserably lost.

Mr. Kay says—" Vertitur, literally he turns himself, is often used for he is turned." This use is good news for a Latin scholar; who, however, will insist that se vertit is the Latin for he turns himself. It is true that vertitur = se vertit; but this is no proof that the literal version above given is in the least defensible. Besides, the grammatical equa-

tion is true only by chance; for any number of similar constructions may be produced which will not constitute equations; thus discipulus docetur is not = discipulus se docet, &c. It is evident, therefore, that the Professor endeavours to confound the Latin Passive Voice with reflexive phrases.

Again, applying those novel principles to vertitur interea calum, we find that vertitur is not reflexive; for the source of the action is disclosed by calum; and as it is not reflexive, it is not passive. The Pro-

fessor leaves it "no character at all."

In support of his views, he appeals to French reflected verbs, and is very unlucky:-"Many European languages afford examples of this (the passive) use of the reflexive." In those languages a passive signification is frequently expressed by a reflexive form, though this is rarely the case except in the third person. This does not prove the reflexive is passive, or the passive reflexive. If we receive Mr. Kay's doctrine, the French for I am flattered is je me flatte, instead of on me flatte; and the Latin for thou lovest thyself is amaris. To such absurdities does Mr.

Kay's theory of the Passive Voice lead.

If, then, some of our foremost grammarians entertain such obscure or absurd notions of the Passive Voice, can we wonder that the less expert and less learned grammarians of India have been puzzled with it? Some of the best English scholars reject the English Passive; shall we be surprised that the Munshis have not been able to detect the Urdú Passive? Certainly not. My assertion, therefore, of independent Hindustani Passive tenses can no more be invalidated by pleading against me the authority of the Munshis than the authority of Gilchrist or Forbes. No mere authority can impair the investigation, argument, and inferences which have been exhibited. My analysis and reasoning are unconnected with any peculiar theory or favourite speculation; they are rigidly applied to the features of the construction; conducted according to the essential nature of the Passive Voice, and the clearest analogies of language; and their consequences confirmed by the consistency and harmony to which they lead.

Being satisfied of the Passivity of the preterite tenses, I drew up the

following simple and consistent statement:

1. The preterite tenses of transitive verbs are pure Passive forms.

2. The subject, when directly spoken of, is in its simple state as the nominative case, and requires the verb containing the Passive assertion to agree with it in gender and number.

3. If the subject of the verb be placed under the government of ko,

the verb remains in its elementary form, singular and masculine.

4. In the latter case it must be translated as impersonal Passive; but the appropriate pronoun may be supplied from the indirect nominative, or subject of the discourse, which has been put under the government of ko. Thus:-

'Auraton ne larkiyon ko márá. (اکیوںکو مارا)

- "As to the girls, it was beaten by the women, Or, "As to the girls, they were beaten by the women."
- 5. The agent of the verb in these preterite terms is governed by ne.

This exposition, I conceive, makes everything connected with this subject clear and harmonious. It proves the Hindustani to have a pure though defective preterite Passive voice, independent of the auxiliary  $j\acute{a}n\acute{a}$ , and shows ne to be as intelligible with the Preterite tenses as d with the Latin passive, or by with the English. The tenses which are not derived from the Past particle must be supplied by the help of  $j\acute{a}n\acute{a}$ ; and thus we shall have a complete paradigm of the Passive voice in the  $Urd\acute{u}$  of Hindustan.

Mr. B. B. Stoney read a paper "On the Relative Deflection of Lattice and Plate Girders."

The President, before leaving the chair, congratulated the Academy on the number and variety of communications of great interest and value which had been brought before the Academy during the Session now closed.

## MONDAY, NOVEMBER 10, 1862.

WILLIAM R. WILDE, Esq., Vice-President, in the Chair.

W. H. Hardinge, Esq., read (in continuation) his paper on Mapped Townland Surveys of Ireland.

The Rev. Professor HAUGHTON read the following Paper: -

Observations on the Wind, made in the Years 1848-49, in Leopold Harbour, North Somerset, on Board Her Majesty's Ship "Investigator."

The following observations were made during the winter of 1848-9, on board Her Majesty's ship "Investigator," which, with the "Enterprise," formed the first Franklin searching expedition, under the command of Sir James C. Ross.

I owe the opportunity of discussing and publishing them to the kindness of Captain Washington, R. N., Hydrographer, who placed them at my disposal, for scientific use, together with the Tidal Observations that accompanied them. The observations themselves were made by Lieutenant Robinson, R. N., and appear to have been very accurately recorded.

The latitude of Port Leopold is 73° 50′ N., and the longitude is 90° 20′ W.