VI. *Remarks on a larger Syſtem of Reed Pipes from the Iſle of* Amſterdam, *with ſome Obſervations on the Noſe Flute of* Otaheite. *By* Joſhua Steele, *Eſquire.*

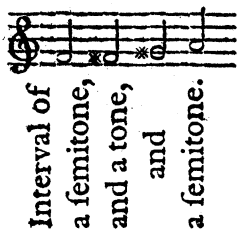
TO SIR JOHN PRINGLE, BART. P. R. S.

SIR,

Margaret-ſtreet, Feb. 21, 1775.

Redde, Feb. 22, 1775.

THE notice taken of my ſmall endeavours, by your illuſtrious Society, does me much more honour than I deſerve; however, I receive it, as I ought, with reſpect and gratitude. I now incloſe to you ſuch farther remarks as I have been able to make, by repeated trials, on the laſt reed pipes you brought me from Mr. BANKS; which, though much larger, and more in number, are of the ſame *genus* with the former. I have alſo examined the noſe-flute of Otaheite, which Mr. BANKS favoured me with; and I find it gives only four ſounds, with the firſt degree of breath, which are, in an aſcending ſeries, by a ſemitone, a tone, and a ſemitone. Thus noted in conſort-pitch,



It

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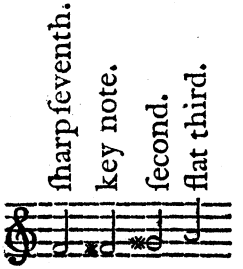
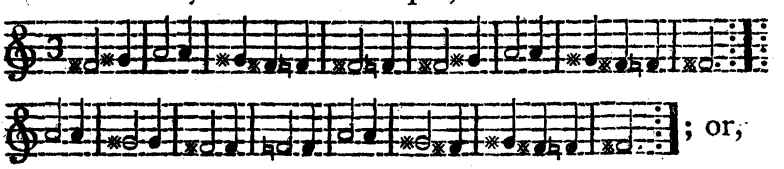
If urged with a ſtronger breath, it will give octaves above theſe; but it then becomes ill in tune: and I underſtood from Mr. Banks, the natives of Otaheite uſe no more than thoſe firſt four ſounds. Were I to give theſe notes denominations according to our ſyſtem of muſic, they ſhould be diſtinguiſhed thus,



Notwithſtanding the ſmall extent of this ſeries, yet, by the aid of varying the meaſure, it is capable of ſeveral different melodies, though the general caſt of them will be melancholy. As for example,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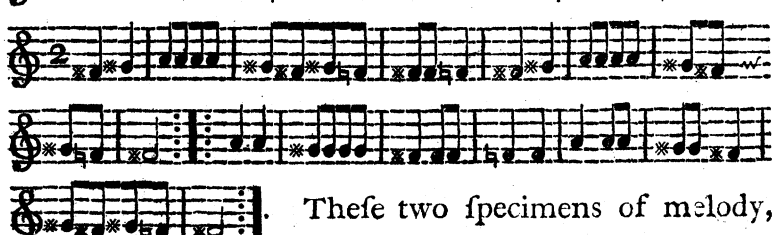

. Theſe two ſpecimens of melody, adapted to the noſe-flute, are, harmonically, the ſame,

though rhythmically different; the latter having a degree of vivacity more than the former, in proportion to its meaſure of time; two bars of the firſt, being equal, in length, to three of the ſecond.

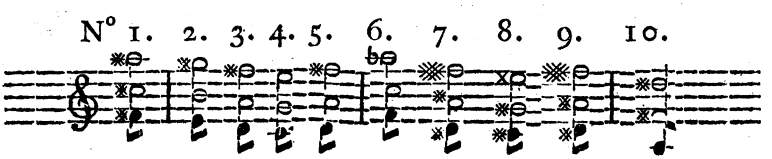
I am, SIR, with great regard,

Your very humble ſervant,

JOSHUA STEELE.

Remarks on the larger ſyſtem of reed pipes from the iſle of Amſterdam.

The ſpecific difference between this and the ſmaller ſyſtem, deſcribed before, will be underſtood from the following obſervations. It conſiſts of ten pipes, joined together in the ſame manner as thoſe of the ſmaller ſyſtem. The firſt nine pipes exhibit to the eye the ſame figure as the ſyſtem before deſcribed in the drawing; and the tenth pipe (which is the additional) is a little longer than N° 4. For in this larger ſyſtem, N° 8. is thirteen inches long; N° 4. thirteen and a half, nearly; and N° 10. is fourteen inches. The ſounds which each pipe *exhibits eaſily*, are marked in *minims*, as follows, and are noted agreeable to conſort pitch:



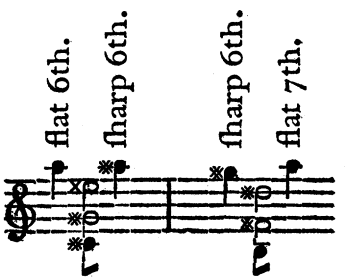
As

As the upper minims are ſixths to thoſe next under them, it follows, from the law of harmonic ſounds, that the lower minims are fifths to the fundamental ſounds of theſe pipes, which are written in quavers, to ſhew that they are very difficult to be produced. The upper minims of N° 1. 2. 3. 4. 5. and alſo of 10. are ſharp thirds, or rather, major tenths, to the fundamental ſound of each pipe. And the upper minims of N° 6. 7. 8. and 9. are nearly minor tenths to their fundamentals; which circumſtance ſeems to agree with what I remarked in the ſmaller ſyſtem, as an extraordinary property, touching the minor thirds. † But I will not yet aſſert, that this property is altogether natural, becauſe I found ſome of theſe latter pipes were partly obſtructed by accidental rubbiſh, which was drawn out with difficulty; ſo that I pretend not to decide, whether the cauſe of their being, not quite, in the ſame proportion of tune, as I found in the firſt ſyſtem, ariſes from ſome caſual injury, or from original intention, or original inaccuracy. ‡ I have ſaid, the upper minims of N° 6. 7. 8. and 9. are *nearly* minor tenths to their fundamentals; becauſe, in fact, I found them ſomething more than *minor*, and yet not *major*; wherefore I have uſed the mark (⁂), of a triple croſs, to ſignify ſomething more than (⁎), the double croſs; and the mark of (×), a ſingle croſs, to ſignify a *dieſis*, or ſomething leſs than (⁎), the double croſs; which laſt, in the modern practice of muſic, always means to ſay, *plus a ſemitone*, neither more or leſs. For though

† and ‡ referred to from the following page.

the nicety of the *dieſis* is ſtealing inſenſibly into the fancy of ſingers, and of ſome other elegant muſical performers, it is not as yet adopted, or uſed as ſuch, in the notation of modern muſic. The interval between N° 1. and 2. in theſe pipes, is only of two ſemitones; whereas, that between the N° 1. and 2. of the former ſyſtem, was of three ſemitones. The ſeries N° 2. 3. 4. and 5. and the ſeries N° 6. 7. 8. and 9. (both of which I have diſtinctly marked within bars) have ſimilar intervals in both ſyſtems (making allowance for what I have ſaid in page 75, † and ‡.) Wherefore I imagine theſe to have been the original extent of the whole modulating ſeries, like the double tetrachord of the Greeks, and that the N° 11. and N° 10. are additionals at pleaſure; as, in the ſmaller ſyſtem, the interval between N° 1. and 2. was a ſemitone greater than that between N° 1. and 2. in the larger ſyſtem; and N° 10. in the ſmaller ſyſtem (firſt examined) was totally omitted, though I have ſeen two others which had it. The ſounds in this larger ſyſtem are ſeven tones lower than thoſe of the ſmaller, which correſponds with the difference of their dimenſions; the pipe N° 4. in this ſyſtem meaſuring nearly thirteen inches and a half in length, with diameter ſeemingly proportional; whereas the N° 4. in the ſmaller ſyſtem meaſured only ſeven inches and a quarter. By increaſing the velocity of the blaſt, I found theſe pipes gave ſounds ſtill higher, which were *fourths* above the upper minims, or *octave and ſixths* above the fundamentals; and with a little more force, *tritones*, or *ſharp fourths*, above

above the upper minims, which were *octave and flat ſevenths* above the fundamentals. But theſe two (the 4th and ſharp 4th above the upper minims) ſhould rather be conſidered as one *note of latitude*, which by more or leſs velocity, or force of breath, makes in the N° 1. 2. 3. 4. 5. and 10. either a ſharp 6th, or a flat 7th, to each of the fundamentals; or in the N° 6. 7. 8. and 9. either a flat or a ſharp 6th.



fundamental N° 8. fundamental N° 10.

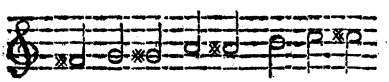
This note of latitude is common to all tubes, trumpets, horns, &c.

The following notes mark the aſcending ſeries of the ſounds of this larger ſyſtem, omitting the fundamentals, and giving only thoſe which are more eaſily obtained.

The numerical figures ſhew from which pipe the notes were produced.

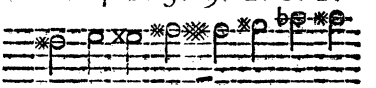
N° 10.

3. 7.
N° 10. 4. 8. 5. 9. 2. 6. 1.



Fifths above the ſuppoſed fundamentals, produced by a gentle blaſt.

3. 7.
N° 10. 4. 8. 5. 9. 2. 6. 1.



Tierces, or tenths, above the ſuppoſed fundamentals, produced by a ſtronger blaſt.