

*Music and the Musical Faculty in Insanity.* By RICHARD LEGGE, M.D., Assistant Medical Officer, Derby County Asylum.

The subject of Music and the Musical Faculty in connection with insanity is one which has several interesting aspects, and one which, in some directions, offers for observation a field which has hitherto been little worked. I propose to bring together in this paper some of the facts which have fallen under my notice, and to offer a few comments upon them.

The term musical faculty includes: (1) Capacity for recognizing sounds of definite pitch, and the relationship of such sounds one to another, *i.e.*, "having an ear for music;" (2) Susceptibility of the emotions to musical influence, (including a natural or cultivated taste for music); (3) Skill in the execution of music, vocal or instrumental; (4) Power of composing original music.

The first of these is strictly analogous to the colour-sense. Colour-sense is deficient in a considerable proportion of healthy persons, but, probably, it is never entirely absent. Ear for music, also, is in many but slightly developed, though it seems to be always present to at least such a degree as will enable its possessor to discriminate between sounds of very high and of very low pitch. Above this there is every degree of capacity. A person with "no ear" can, probably, tell which one of two notes played to him is of the higher pitch, but he will have little or no idea of their interval; some, whose musical capacity is more developed, and who can whistle or sing melodies without going far out of tune, cannot tell the progression of a tone from that of a semitone, or that of a major third from that of a minor third, when played to them on a keyed instrument; while others can clearly distinguish a great tone from a small tone (C to D, and D to E, in the untempered scale). It is not easy to determine accurately the amount of ear for music which a person may possess, and with the insane the difficulty is increased; in the case of idiots, often, all that we can do is to form a rough judgment, by listening to their singing and noting if it be in tune. In judging a person's ear for music the point to be observed is his power of appreciating intervals (or "relative pitch"), and this is practically the same thing as his power of telling when and how far a

melody which is played to him goes out of tune. The capacity for telling the "absolute pitch" of notes, that is, for recognizing approximately the number of vibrations per second of a single note, is one which is of little importance; few persons possess it to a high degree, and it is useless to musicians. Appreciation of relative pitch is improved by cultivation. When there is an ear for music there is also usually a sense of rhythm, but the latter is often well marked in persons in whom the former is rudimentary. It is worth noting that the colour-sense is more often deficient in musicians than in any other class of men (Edridge Green). A capacity for one form of art seems to limit its possessor in other directions; poets are commonly deficient in musical ear. A sense of rhythm is not confined to musicians; rhythm has its analogue in poetry as Metre, in the graphic arts and in architecture as Repetition of similar parts.



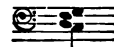
The three other, and higher, divisions of the musical faculty require no explanation.

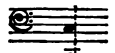
In *Acute Mania* there is generally incoherence of musical, as of other, thought. If the patient sings he generally sings snatches of songs, and these are often inaccurate and out of time and tune. Music heard by him has little effect; at most it arrests his attention for a moment, or turns the current of his thoughts into a different channel.

Patients suffering from *Sub-acute Mania* often give vent to their feelings by singing, or by playing upon an instrument; they are not fastidious about time or tune, and their performances are usually fragmentary. Two of these patients sang hymns loudly while I fed them with the œsophageal tube—one in emulation of the martyrs who sang at the stake, the other as an expression of defiance. Another patient, in whom a series of epileptic fits is ushered in by a period of maniacal excitement, shows her feelings by singing a verse of a hymn over and over again. She varies her expression to suit every emotion, and sings it coaxingly, joyously, angrily, or furiously, as the feeling of the moment may prompt, and entirely without regard to the proper sentiment of the words or tune. Another patient, also epileptic, and a fair pianist, becomes very irritable when a series of fits is approaching. For a few days before the attack he is constantly at the piano playing choruses from Handel's oratorios. He makes many mistakes, plays too quickly, and gets angry if interrupted. When he has

finished playing he hides the book under the sofa. After the attack is over he is very confused, forgets where he put the book (though he always puts it in the same place), suspects other patients of having stolen it, and strikes them. He gradually becomes clearer in his mind, but does not play much until the next attack is approaching.

The following is a good example of alteration in the musical faculty in sub-acute mania. Patient was a school teacher, and a fair performer upon the piano; he was the church organist of his village. He had many exalted delusions; thought that the asylum was Windsor Castle, and that he was Julius Cæsar, Shakespeare, Mozart, and many others. If allowed, he would spend five or six hours a day at the piano. On each occasion his performance was much the same; I took notes of one of them. First, he sat at the piano for ten minutes as if in deep thought; then, opening

the instrument, he played the notes  for about a quarter of an hour, now in common time, now in triplets or other rhythms, sometimes forte, sometimes piano, sometimes with a careful crescendo or diminuendo. Meanwhile he listened attentively with his head to one side, as if judging some very fine and delicate effect. Next he varied the performance by using the chord  or  or

both. Thirdly, constantly playing the notes  with the left hand, he played melodies with the right, beginning with country-dance tunes played correctly in the key of C, and ending with extempore melodies of the most incoherent kind and in any key. When he had gone through a vigorous performance of this sort for a quarter of an hour, he passed without a break into the hymn "How sweet the name of Jesus sounds," of which he played the first line over and over again, correctly and with the proper harmony, slowly and without a pause, for twenty minutes. Finally, he passed, again without a break, into "Hill's March," of which he played the first section with much spirit for about twenty minutes more.

*Chronic Mania.*—Most of the patients who play in asylum bands belong to this class. Some are good executants, perhaps as good as when they were sane; but their performance of good music is hardly ever worth serious consideration.

Their playing is without expression, they play loudly or softly, quickly or slowly, not as the music requires, but as their feelings at the moment may prompt. They are uncertain, apt to break down, or to stop suddenly. Some of them, especially those with engrossing delusions, learn new music with difficulty. Chronic maniacs who have a little knowledge of any art will often make this a hobby. In most asylums we see patients who spend their time drawing pictures without perspective, or writing poetry without metre. I think they less frequently take to music, probably for the reason that to play upon an instrument involves some physical exertion or a bodily position which must be kept up by an effort. A patient lately under observation spent all his time writing out the tunes of hymns from memory; he wrote them (in default of better) upon brown paper which he had ruled; they were usually correct. He bound the paper into books and sang the hymns at intervals. Excitable patients occasionally become excited on hearing lively music; but, upon the whole, I think that susceptibility to musical influence is less marked among chronic maniacs than among the sane.

Patients with *Melancholia*, where the depression is at all severe, seldom play, and are seldom pleased on hearing music. Florence Nightingale remarks that sick people generally like music in which the sounds are sustained (as those of the harmonium), and dislike that of an opposite character (as of a piano, played staccato), without much regard to its being good or bad, cheerful or solemn. I think from my own observation that this is true, and that it may apply to cases of slight depression, provided, of course, that the patient is not indifferent to music; but in cases of severe depression music of a sad character deepens the patient's gloom, while lively music often irritates him as out of keeping with his feelings. There is but small hope of music taking an important place as a curative agent in melancholia. Music of a high class appeals strongly to, and is a serious influence in, the lives of some persons; but such persons are few, and high-class music cannot be appreciated without an effort, an effort which the melancholic cannot give. The relation of music to melancholia is very much that of the other arts. A patient is no more likely to be benefited by high-class music than he is by the poems of Milton, the cartoons of Raphael, the Laocoon, or the higher mathematics; while the influence of popular music does not differ in kind from that of the

other arts, as represented by "Punch," "Tit-Bits," oleographs, and decorative wall-papers. These and other cheerful influences are, no doubt, very valuable in hastening the recovery of patients already improving, and in brightening the lives of the permanent residents in our asylums; but we can no more expect to cure a well-marked case of melancholia with them than we can hope to make a man forget the recent loss of a friend by taking him to see a farce at a theatre.

In *Melancholia Attonita*, the æsthetic faculties seem to be in abeyance. A patient who is uninfluenced by physical discomforts which would be intolerable to a sane person, cannot be expected to be susceptible to influences of an artistic character. Among the patients I have seen with this disease, a more than due proportion have had, when well, musical or artistic tastes.

In *General Paralysis* patients who previously have been musical often have exaggerated ideas of their musical powers. In two cases, where I was able to ascertain the patient's musical capacities before he became subject to the disease, there was subsequent loss of ear for music. The patient continued fond of music, but had lost the power of singing in tune, or of telling when an instrument or voice was out of tune even to the extent of half a tone or more, and he did not notice gross mistakes in his own playing or in that of others. One of these patients had formerly written a clear, neat hand; this was changed to a large, shaky, scrawl, but he did not notice the difference. As the appreciation of music consists in recognizing the relation of many tones one to another, each tone having a definite number of vibrations per second, it is not surprising that it should be affected in general paralysis, where there is a want of the sense of proportion and comparison, a confusion of mental standards, and, perhaps, a disturbance of the muscular sense. In one general paralytic I have seen an analogous change in the colour-sense. The patient regarded as yellow all the colours to the left of the blue in the spectrum; those to the right of it he called blue, or purple. This condition came on with the disease, and increased with it; in the later stages he thought that every colour was tinged with yellow.

In *Dementia*, the æsthetic feelings decay with the general mental powers, and perhaps more quickly. After the capacity for appreciating music has been lost, the power of performing upon an instrument remains. The following case is

typical of the class:—A lady, highly educated and a good pianist, is very demented; she does not recognize her attendant, and cannot look after herself in any way; she takes no notice of music played in her hearing, and does not of her own accord go to the piano. If placed at the instrument and music put before her she plays at once, reading difficult music at sight; she generally plays far too quickly, and, if in a bad temper, her playing is quite a scramble. She plays fairly correctly, but makes more mistakes than she formerly did. If a piano duet be placed before her, she plays first the page to the left (bass part); and then, without pausing, the page to the right (treble part).


In the *Partial Manias*, the musical faculty may be unimpaired. In one case, where there were hallucinations of the sense of smell, the patient was an excellent performer upon the violin, and played with the most perfect taste. In another case a perfectly sane musical faculty coexisted with hallucinations of hearing; the patient heard imaginary voices, but never, so far as I could ascertain, musical sounds.

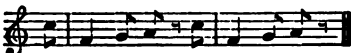
The relation of the musical faculty to *Idiocy* is one of the most interesting branches of the present subject; it is one, unfortunately, for which I have little material at my disposal. I have examined, altogether, fifty idiots of various degrees of idiocy, a number too small to enable us to form safe generalizations. Out of these, thirty appeared to be pleased when they heard music, twenty were quite indifferent to it, fifteen used to hum or whistle or sing tunes without words, nine sung tunes with words. Five of the fifteen could also articulate words correctly, but without any idea of their meaning. One had never been heard to speak, and was supposed to be deaf and dumb, until she was heard singing a tune picked up from another patient; she took little notice of unmusical noises, even when loud, but usually showed pleasure on hearing musical sounds; she was almost devoid of intelligence, could not walk, and did not recognize her nurse. Four of the fifty were fond of drawing, three did woolwork in fantastic patterns, and less than half of the fifty appeared to be pleased by looking at pictures or bright colours.

In idiocy we find that a rudimentary æsthetic sense frequently exists in cases where other common mental attributes are nearly, or quite, absent; where there may be no intellect or reasoning power, where the appetites may be represented only by a dull desire for food, and where the patient's capacity for pain and pleasure is much below the



normal standard; and in idiots we may often notice an amount of musical capacity which seems out of proportion to the general mental development. I think this is rendered less surprising by the consideration that the æsthetic sense appears early in the infant, in whom we may see a well-marked taste for lively tunes and bright colours at a time when most of the faculties are but slightly developed. It also makes an early appearance in the evolutionary scale. The colour-sense exists in the crustacea; a well-developed colour-sense and love of ornament is found amongst birds; insects probably have a sense of musical pitch, and birds have musical ear to a remarkable degree, several species being able to imitate melodies accurately. I have observed a wild thrush, whose song was the following melody, sung as

well in tune as most singers would make it: 

and  It is remarkable, however, that no mammal below man, with the exception of the Singing monkey, appears to have any delicate perception of pitch (Romanes).

Granting the existence of an æsthetic sense in the idiot, I think it is more likely to find expression in the direction of music than in that of any other of the fine arts. To give the æsthetic sense expression by means of Form in the graphic or plastic arts, or of Colour, requires a long training in the use of tools; but to give it expression by means of music requires only a healthy larynx and a model to imitate. Poetry requires the use of language, a very difficult tool, and a very late product of development.

In the matter of ear, idiots do not seem to be inferior to musically-uncultivated sane persons. Of their sensibility to music I think the same is true. In performing upon musical instruments imbeciles occasionally attain a fair proficiency; and, provided that the imbecility be slight and not accompanied by arrest of bodily development, there is no reason why an imbecile should not acquire the mere mechanical and imitative part of musical performance; but as the higher expressions of the æsthetic sense involve not only emotions of great complexity, but much pure intellect, so, in the power of employing music as a means of appealing to the higher feelings, the capacity of the imbecile diminishes *pari passu* with his mental power, and never reaches the

sane standard. In composition, the highest form of the musical faculty, idiots are as sterile as they are in any of the other fine arts.

In the Acquired Insanities, the higher forms of the musical faculty—those forms which use music as a means of expressing intellectual ideas or the more complex emotions—generally suffer, as we might, *à priori*, have expected; the musical performances of the patient often reflecting the incoherent, distorted, depressed, or defective state of his mind. Susceptibility to musical influence and love of music are variously affected in the different insanities. Capacity for performing upon an instrument does not usually suffer much in itself, though it is, of course, affected indirectly by the patient's mental state; even in advanced dementia patients may retain the power of reading at sight and of playing from memory. Musical "Ear," so far as my experience goes, is affected in general paralysis alone.

The case of the organist, mentioned above, looks like an instance of reversion to a primitive type. Among savages the first stage of musical culture beyond "mere gliding of the voice up and down without notes strictly defined to one another" is "the achievement of a single musical figure, which is reiterated over and over again." A phrase, consisting of a short fragment of a scale, will be sung repeatedly for hours by the Australian aborigines. "The next step is the contrast of the two melodic figures" (Hubert Parry). It will be noticed that the thrush, whose song I gave above, was entering the second of these stages, and that much of the organist's performance was not beyond them.

The aspects of this subject which I think most likely to reward the investigator are:—The occurrence of the musical faculty in idiocy, its decay in dementia, and its loss or alteration in paralytic and organic dementia; though others, also, are of much interest to an observer who can view the matter from an artistic standpoint, and who has the insane of the cultivated classes as material for study.

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