

MUSIC AND PSYCHOPHYSIOLOGY

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Extract from Chapter 1:
'The mechanism of musical expression'

'In the study of the piano, through standardizing motor functions and musical sensations, strong support can be provided for the artist's highest aspirations.'

Whereas a large number of scientists who have become attracted by music are through it endeavouring to extend their understanding of the special phenomena connected to the body of scientific research, musicians regard art and science as conflicting fields and have no wish to set up points of contact between them. Not only do musicians fail to follow scientific progress from the point of view of clarifying certain aesthetic phenomena of musical performance, but any attempt at scientific analysis of such phenomena provokes in them the kind of instinctive antipathy which painters or poets might feel at studying their art by carrying out vivisection. Such are the misgivings caused by a so-called antagonism which exists between the reasoned analysis of the mechanical action which can be learned by anyone and the non-reasoned action of the individual artistic instinct. Musicians find it ridiculous to want to make the beauty of musical expression correspond to a methodically-analysed practical action. Furthermore, they attribute to experimental science the ability of logically deducing actions of a lesser order, whereas, in their opinion, art amounts to higher considerations, where superior inferences are required to be resolved by sudden revelations, before of which all connection between cause and effect collapses.

This allegation of inadequacy against science expressed by the judgement of the artists themselves is carried out entirely in order to dishearten those who identify the powerful assistance which science can lend to the study of musical performance. Due to this allegation, the 'mechanical obscurity', created by the common procedures of piano studies, where no aesthetic meaning is assigned beforehand to the movements of the fingers, must give way to the 'clear-sighted mechanism', where the movements relayed to the keyboard will allow the performer to deliver the aesthetic beauty of musical art in a completely natural way.

There is a pervading and absolute ignorance within the study of the piano concerning the essentially aesthetic nature of the mechanism.

The idea of familiarizing oneself with the phenomena of musical expressivity by means of analysing – through judicious observation – the movements by which such expressivity is transmitted to the keyboard, is regarded as being very new. However, the question arises as to whether it can, in principle, be admitted that a true understanding of ideal beauty involves the deep, clear and meticulous understanding of the practical functions which help to express that beauty. Above all, this is the case when, in the study of the piano, the double mechanism function – of the instrumentalist and of the instrument – provides the analysis of the connections between causes and effects with a substantial basis.

Why is undue respect granted to this mysterious essence of musical feeling? Given the substantial number of mystified performers, isn't it clear that this represents a false and futile cult, of no value to those to whom the art is taught? Even the most gifted performers often pointlessly seek to release a spark of intelligence from the empty-headed movements which they produce; however, 'if they are destined to become musicians', they have been assured, 'light will flood forth by an unprompted intuitive demonstration, because the greatness and the mystery of art resides in the fact that its sense of being cannot be communicated. One must carry it within oneself.'

This is the sort of language commonly supplied to pupils keen to learn how to play the piano, since the mechanism of the fingers and the musical expression are wrongly considered as being brought into being by two separate elements, one of which – the practical – can be conveyed, the other – the spiritual – is inexpressible. Leibniz said:

If people observed and studied with greater zeal those external movements with which the passions are associated, it would prove difficult to dissimulate.

Here precisely is what the role of the artistic mechanism consists of: it must create the external movements of the passions of the musical language, and these movements, necessarily, will be completely different from the movements made without this dominant purpose. At a later point we will establish the clear delineation of these differences, but for the moment it can be maintained that, in principle, achieving aesthetic beauty demands from the performer a 'special physiological state', such as that which has been regarded as the exclusive privilege of certain particular individuals, of whom Paganini and Liszt continue to be considered as the exceptionally superior representatives.

If experiential science is in a position to help musicians define this physiological state of favoured performers, as a result of the knowledge gained by the combination of the physical and psychic functions, there is no further need to be limited to teaching the mechanism of performance; it will become the physiological functions of performers who are likely to produce a superior performance which will form the basis for teaching.

From then on, for the study of the mechanism, it will essentially be proven that, through its individual character every action of the fingers will be capable of creating clear and precise reactions in terms of brain activity. Any performer working on the movements of his or her fingers in a visible way, will be working on an invisible – but no less real – way on his or her brain activity. A logical correlation will thus be established between the progressive development of the improvement of the movements of the fingers and of the performer's musical feelings.

We can be helped in clarifying this phenomenon by the judgement which [Alexander] Bain authoritatively expressed concerning an analogous act:

It is often said that the mind and body act upon each other. This view supposes that we are entitled to speak of mind apart from body, and to affirm its powers and properties in that separate capacity. But of mind apart from body we have no direct experience, and absolutely no knowledge. The mind may act

upon the sea, and the waves may react upon the wind; yet the agents are known in separation.

(Mind and Body)

Since we have a complete fusion between practical and mental functions, why not admit that for us – even with artistic demonstrations – body and mind, movement and thought, are but a single force?

For as long as the mind was considered to be separate from the body, and musical thought as separate from the movement of the finger, it was acceptable to say: style is not taught. But for piano studies, at least, today it can be asserted that *the movements which produce the style* can be taught.



Marie Trautmann with her cousin Madeleine Rempp-Kiener.
(Bibliothèque Nationale et Universitaire, Strasbourg)

Marie Trautmann et sa cousine Madeleine Rempp-Kiener.
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