Teaching and creativity. What model for the music of the future? A general approach.

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What basic teaching for today's music?

The teaching activity has an important peculiarity: it allows to understand the evolution of a society by sharing the growth of those who will be the protagonists of the future, to know their origins and to see their evolution in advance.

It also gives the possibility to experience first hand the effectiveness and scope of educational and cultural references, as well as to verify the value of the different educational systems.

The teaching of music in general and of a musical instrument in particular, allows a privileged point of view, because it is based on an individual relationship with the students, through which the level and quality of their learning can be directly verified, and deal directly with their abilities, their development, their knowledge and their attitudes, both formally and hierarchically, and confidentially, as well as allowing students to express themselves both critically and emotionally, on their relationship with learning.

This individual teaching is a very important source of informations.

Let's try to tackle the topic from a strictly practical point of view, that is, let's see what some choices on learning and on the evolution of pupils entail, leaving out the philosophical and theoretical aspects that should support them.

The concept of notion.

What do you need to know and what is superfluous? Is it really enough to do a search on the web to get all the necessary information, and be sure that these are always correct, complete and exhaustive? Which model is pursued? Why are we trying today to build an educational model that is independent of the millenary cultural roots that have built the world in which we live?

The concept of the notion, its essence and scope, as well as its critique, has always inspired philosophers and scholars.

The model in vogue today is: *build your knowledge, on the basis that interest you, so that you can then profit from it.* This is a sort of *productive learning*. In the websites and adevertisements of schools and universities around the world, among the evaluations of the rating, there are the *financial skills* of those who carry out one study rather than another. And this is always one of the most important factors. The value of your preparation is functional to the economic value you are able to derive from it. What matters is that value is produced, no matter how or with what. This is why there is much emphasis on the quality of the preparation but focused on your success. And in a society that revolves around marketing, what counts is the image you give about yourself and the things you do. The content is no longer relevant. According to this model, therefore, not only the notions that are possessed have no intrinsic value, but neither do the teachers, given the economic power that is given to them today. Today the concept of *educational offer* is very much in vogue in the world of education, a concept that no longer expresses exclusively the contents, but highlights the collateral elements. With the result that these now have a predominant weight in the decision to start a learning activity or not. This follows the boom of social networks where all that matters is the

image you give of yourself and of the things you do, given that the *smart talk* prevents you from proposing too complex contents. Impoverishment of the individual and at the same time impoverishment of one's expressive abilities.

Can we still talk about mistakes?

In this system, for many years now, the correction of mistakes in schools has been abolished, because this would cause great psychological problems in the students.

What is a mistake? Can a pupil be corrected?

Assuming that this is from a psychological point of view more important than the notion itself, what does all this lead to?

According to the dominant culture, the economic success of those who do not come from important institutions, or have escaped from them, is used to demonstrate that basically institutional culture, more often than not, constitutes a limit to one's possibilities. Assuming that this is often the case, (not all teachers are equally open to the students and their future…) can we, however, tout-court affirm that the education system in general is not up to the task it has been given?

And is someone's economic success enough to put a whole system into question? Can we forget that alongside the so-called "gurus" there are a myriad of people who with their skills actually support an entire system from a scientific, financial and legal point of view?

When I was studying at the university, our math professor used to say: "be careful, if we make a mistake the bridges will fall". Now, it is quite evident that in music the thing is less dramatic, a wrong note is only a problem of aesthetics and does not cause serious damage, except perhaps in the most sensible souls. But the correct interpretation of the notation, with all its tiny details, could instead be of great help in the interpretation of reality. Let's try to think about what could happen to a student if he is unable to read and interpret a contract correctly. Perhaps knowing how to read and interpret a text correctly is a superfluous notion? Or is it intended only for the most talented? And the others? Can we talk about mistakes? Or is it better to de-list it in "point of view" anyway? Are we already witnessing the codification of the "alternative fact", as has been done in recent times? The result is that mistakes are protracted over time, and their correction in the best of cases is absolutely superfluous. Furthermore, the ability to correct oneself, therefore the construction of a strong critical sense and a strong self-discipline, results almost nothing, that is the attention to one's work and one's success, is non-existent. In a society devoted to speed, there is no time to patiently build a deep and solid competence. The economic result must be visible in a very short time.

A misunderstood creativity.

Creativity, a term used and abused today, means in its most genuine meaning, the ability to build. But it is above all in the modern sense, the ability to build something new. But how is it possible to build something new, if one does not have knowledge of what has already been built? How can something existing be renewed if its existence is ignored? Some time ago a university student posed a question in a chat: he wanted to promote research and an "innovative" scientific experiment in the emission of the sound of the flute, but he was unaware that this kind of experiment had already been done about thirty years before ... The same applies to the pop music production that today repeats styles, melodies and structures that were already in vogue in the 60s. And the new

generations are big consumers of "latest" things that have already been done decades before. This is what creativity tout-court leads to, to repeat things that already exist, only because more adequate information has not been received during the study phase. On the contrary, it is almost of scientific relevance that the greatest creative geniuses have blossomed from extremely selective and rigid education systems, and from situations extremely lacking in educational freedom, like an explosion of vitality. Allowing or even pushing students to let their freedom and their imagination work, goes perfectly with the construction of a critical conscience, indeed it is a *sine qua non* condition, that is, it allows students to avoid unnecessary mistakes, and therefore to save time that can be invested in truly productive and innovative activities.

This obviously does not mean that students' expressive freedoms must be compressed, but neither that freedom and absolute deregulation lead to effective creativity. From the comparison with the experiences of people who have created innovative things, it turns out that these people, in their respective disciplines, have on the contrary, invested conspicuous intellectual resources, in whatever they are concerned with.

Other activities that have been proclaimed as the "new advancing" are today placed under great attention because their use has shown all their intrinsic limits. Maybe they weren't such good ideas?

It doesn't matter, because in the meantime someone has earned billions ...

Economic factor.

Let's start with an example: sport. It is everyone's experience that in order to play football or basketball or any other sport, you have to learn precise rules, and this requires attention and corrections. Are these corrections limiting creativity in the game? Isn't it the opposite, that is, the more you know the rules in detail, the more you can try to overcome them? How then can one expect from school what is not even remotely conceivable in sport? Or let's think about the use of computers, which many hours of the day occupy in the free time of young people. Without learning the rules of use, you can't even think about going to the main networks. Nobody feels humiliated, nor limited in their creative possibilities when they are shown the rules to observe during a game or those to obtain a certain result on the web, indeed, being an expert on the subject, is a plus, just to express their creativity. .

Therefore, the claim of an absolute spontaneism that would lead to maximum creativity, could paradoxically have the consequence of retracing steps and therefore errors already made by individuals (to understand it would be enough to use the tom-tom, but is this creativity?) With an obvious waste of time and resources.

Isn't it that perhaps today the idea is being proposed that to take care of something, it must be worth it from an economic point of view? That is, in sport sacrifices are faced willingly because then the remuneration is considered adequate, and in music and culture on the contrary, no? And the economic factor can be the only way to give value to things? And is this really true, that culture moves so little money?

The teaching of a musical instrument

We now come to the center of our interest: music.

The teaching of the musical instrument lends itself in a unique way to a broad comparison on the most disparate disciplines, from history to physics, from mathematics to the history of art, from philosophy to languages, from physiology to religion, from medicine to sport, giving the possibility to create that interdisciplinarity that often appears on paper in school classes, but which, even for strict program requirements, it is difficult to implement.

The most effective way to teach a student something new is always to leverage on previous knowledge. We try in simple terms to verify how many and which notions are their heritage, they recall themselves, and on these the new ones are anchored. That is, a bridge is built between old and new. To use modern terms, we can consider the human brain as a hard disk, inside which there are programs that manage procedures. In information technology, when updating a system, a point must be identified from time to time in which to insert a new instruction to a process; in the same way in the students it is always very effective to look for the already existing instructions on which to hook the new knowledge.

Let's start from a general consideration: the new educational theories suggest giving students a lot of freedom of learning and leaving them the necessary space to let their imagination work freely, without constraints, but above all without impositions. The idea is that this freedom should help develop creativity.

To achieve this, the basic notions are reduced to a minimum, to leave room for the personal curiosity of the student, who should discover the world around him and its rules on his own.

This system has radically emptied the very contents of education of meaning and in some realities more than in others, it has literally emptied the school of its contents. Not infrequently one hears the question: what and when are certain notions needed?

Let's take an example: in the Anglo-Saxon music notation system, the notes are A, B, C etc. according to the traditional alphabetical succession. This originally created a particular idea of succession: going up by the degrees of the musical scale, the notes possess within themselves the idea of progression, that is, each rising or falling interval corresponds to the ordered sequence of the letters of the alphabet. What comes after the A to rise? Of course the B as in the alphabet. That is, a succession was built on two models assumed to be "analogous". For the music teacher it was always possible to build the basic notion of music using the basic notion of alphabet. Today the letters of the alphabet are taught in a "random" way, ie without the notion of succession A, B, C etc. but "in jumps". This implies that the pupil loses the concept of ordered sequence in the alphabet. There are simply x letters depending on the language, and these are not ordered in any specific way. In music the repercussion is that it is no longer possible to build musical notation on the ordered alphabet system. What comes after the A? This question no longer has any meaning because the concept of order is missing. It will therefore be necessary for a student to record two different instructions: alphabet and ordered sequence of notes, the two notions without any relationship. Even from an economic point of view this is not convenient ...

Ironically, when is the absolute randomness of numbers?

This is the most banal example, but it is an everyday experience for musicians to be accompanied by this disconnect between the notions that should be basic heritage and the need to make informed music, especially for those who aspire to so-called professionalism.

This is only the first example, but we will consider more in the future.

What can we say about the advent of chats and smart talking, which is radically changing our way of expressing ourselves and making a generation lose the ability to express themselves in a complex and articulated way, and in the same way the ability to understand the complex world of the contemporary music? And how will Artificial Intelligence affect our way of producing music?

This is the summary of a series of research that will be published soon on MusicDesk.

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