

13 The sound of the violin

Ernest E. Boesch

Let me start with the obvious: the sound of the violin is the result of an *action*. Thus, producing the sound must be somebody's *goal*. Yet, the musical sound is indeed an ephemeral, intangible goal of no practical use, and we would therefore have to face the problem of apparently gratuitous actions. Indeed, what kind of an action is "contemplating a flower" or "admiring a landscape"? What is the function of actions like skiing, reading a poem, collecting stamps or paintings – or of playing music? Such useless actions may confront us with the very general reasons for which we act.

I propose to start by considering the violin's evolution as a "species," or what I would choose to call here its "phylogenesis." I shall then look at its "ontogenesis," that is, how, from being a mere object, it becomes, for an individual, an instrument to be played. Third, I propose to focus for some time on the strange goal of producing the *beautiful sound*, and, by extension, the beautiful melody. These considerations will, I hope, make this particular object an example of man's relationship with the objects surrounding him and, thus, with the culture in which he lives.

The "phylogenesis" of the violin

According to historians, the first instruments with strings were plucked, like the zither or primitive harps. The bow would have been a later addition. The actual origins of these instruments remain unknown, but they certainly required complex inventions. A primitive hunter

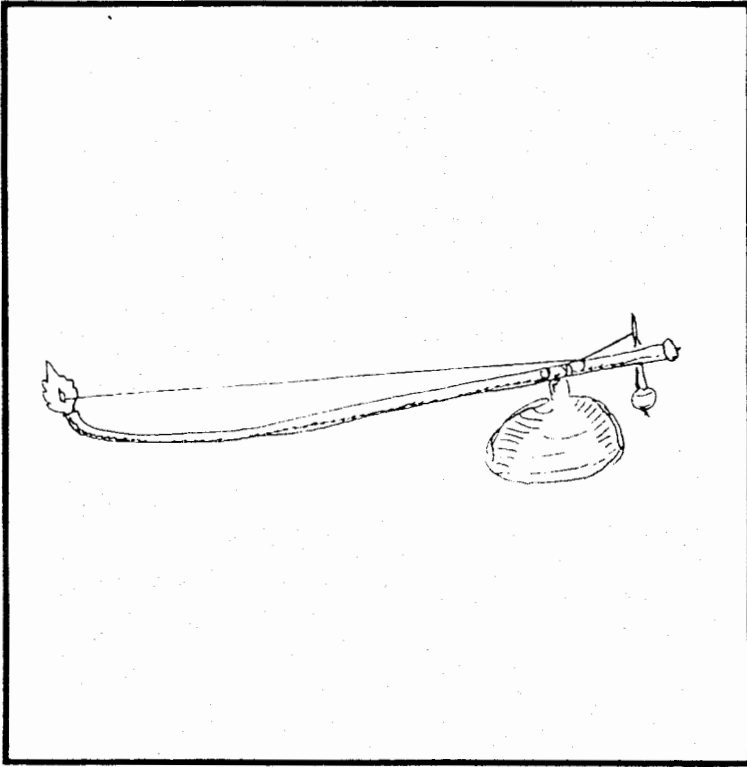


Figure 13.1.

might easily have noticed the peculiar sound of the bow string upon shooting, but it probably needed a moment of relaxed playing with the bow to make him discover the *aesthetic* quality of the plucked string. To observe the different pitches, strings of different length and tension were needed next, but it was only after discovering, finally, that sounds could be amplified by connecting the strings with a hollow object, that the plucking string instrument would have been invented. Such simple instruments still can be found: The Thai *phin* basically consists of a bow with a single string to which half a bottle gourd is attached as a sound chamber (Figure 13.1). Inventing the violin, however, needed an additional, and crucial, step: somebody had to notice that by rubbing the string with a lengthy object it became possible to prolong the sound considerably. The creation of the violin, thus, required three discoveries: the sound differences of varying string tensions and lengths, the effect of a resonance body, and the stroking bow. As with every invention, these discoveries required a reorientation of attention and perception, a

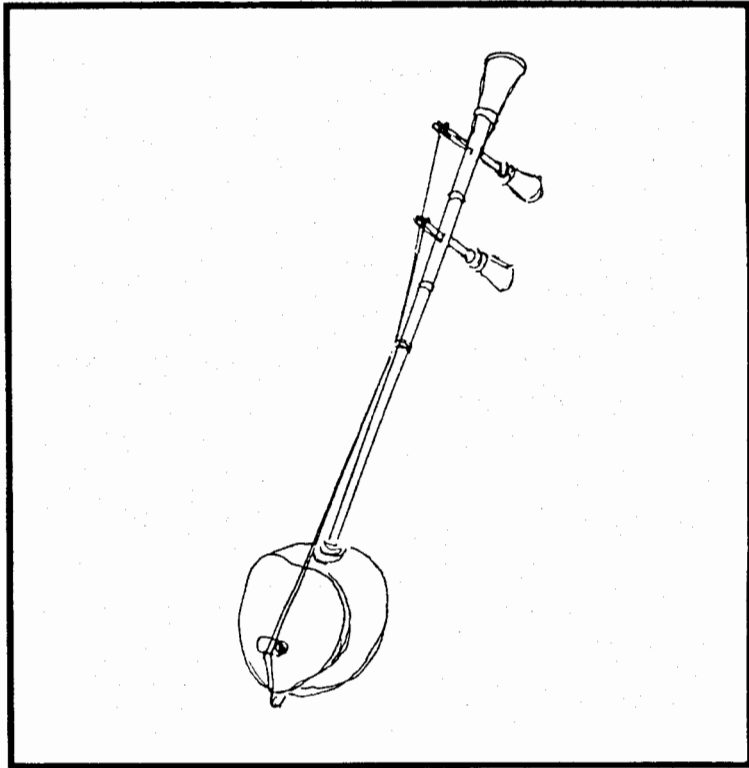


Figure 13.2.

restructuring of actions, and thereby opened to man a new dimension of action, the *aesthetic* one.

The first violins were crude instruments, but their like are still played in many parts of Asia. Thus, the Siamese *soo uu* (Figure 13.2), similar to some Chinese instruments, consists only of half a coconut shell covered by a piece of skin to which a simple stick of hardwood with two strings is attached. Interestingly, in these instruments all the essential elements of our violins are already present: the strings are supported by a *bridge*, tightened by *tuning pegs*, the *sound box* (coconut shell) is pierced by *holes*, the function of which is said to be similar to our f-holes (which, though erroneously, are often believed to “free” the sound). Such similarities, certainly not copied from Western models, indicate that producing and controlling the sound led to analogous technical solutions.

Historians say that the two types of bow-string instruments known in early Europe were imported from the Near East in the 11th century or

before; the first was Arab, called *Rabab*, which engendered the European *Rebec*. It consisted of an elongated piece of wood, the larger end of which was hollowed out and covered with parchment for forming a sound box, while the narrower end constituted the neck. It was fitted with one or two strings played with a short bow. The second instrument is said to have been a *fiddle* from Turkistan, consisting of a spade-shaped sound box with added neck, fitted with two to three strings and played with a longer bow. The Far Eastern “violins” already referred to have similarities with both the rebec and the fiddle, but while those have been abandoned in Europe, the Chinese and Thai *soo* are still in use.

From these two initial forms derived a range of instruments bewildering in their variety. For our purpose let us simply keep in mind that the original crude instruments led to a search for improvements, lasting over several centuries, experimenting with changes of the sound box, the shaft or neck including the kind and number of strings and their tuning, and the bow, these three elements becoming variously combined “across species.”

In this progressive transformation of the instrument, of course, much *bricolage* took place, empirical testing of different woods and shapes; of size, place and form of the sound-holes; of kind and location of the inner stabilizers (bass bar and sound post); of glues and lacquers; of the strings and the bow; similarly, various positions for playing the instrument were tried out. By the 17/18th century this experimentation had apparently about exhausted the available options and became limited to variations in details; from now on the typical violin as we know it, with four strings tuned in fifths (g-d-a-e) remained constant, while the competing forms, mainly the fiddle and the gamba, were abandoned. Of course, this *bricolage* often led to individual solutions – the formulas for glues or lacquers for instance – which the violin-builder tried to keep secret.

The progressive construction of the violin, of course, was guided by the available materials, but no less by the human possibilities of handling. Both, however, were not *a priori* determining; a modern violin is certainly more difficult to play than an ancient viola held on the thigh and fitted with frets, and the typical shape of violins is due to beauty as much as to functionality of handling. Somehow it appears that the old violin-builders felt quality of sound and beauty of shape to be closely related – only a beautiful instrument can sound beautifully.

This is, in short outline, the genesis of a truly cultural object, invented and led to perfection by man. What were the reasons for this development? Indeed, we may understand easily the continuous improvement of a loom from its primitive forms in an African village to a mechanized contraption: it serves ease of handling and, thereby, higher output. What output, however, would the development of violins have served? *Sound*, or to be more specific: *more beautiful sound* – unsubstantial, not measurable like lengths of cloth, and even undefinable. That such an elusive goal should have determined such a prolonged and complex development of an object is indeed a vexing problem.

Let me add another consideration. The pursued sound was, of course, *unknown*. A violin-maker might have changed some aspect of the instrument, but on trying it out, the player could remark: “It sounds better, *but that’s not yet it.*” What would have been this “it”? An intuition, an intangible anticipation, and although such an image became transformed over and again during the centuries long processes of improvement, it would have remained a *should-value* both inducing change and also controlling it.

This “sound-goal image” not only varied over historical periods, but differs also between cultures. Thus the Siamese *soo* and the Chinese *hu* also underwent modifications, but they were beautifications with only little impact on the sound. Similar beautifications by material or inlay, with mere decorative purpose, were also applied to European instruments, but those, again, differed fundamentally from other transformations. Look at one among many examples, the *bridge*, an inconspicuous element: it underwent multiple variations in form, size and position whose effect on the quality of sound – quite substantial – was tried out over centuries. However, to understand our long-lasting search for a more beautiful sound, somehow contrasting with other cultures, we have to look not at the instrument alone but also at its player.

The “ontogenesis” of the violin

“Ontogenesis,” of course, is not used here as in developmental psychology, meaning the unfolding of a being from its conception to maturity; I would rather understand it in its original sense, “the coming into being.” Indeed, a violin becomes really a violin only on being played.

Mastering the violin is a long and frustrating endeavor. The optimum age for starting to learn is likely to vary between 5 and 7 years, when the most gross difficulties of sensorimotor coordination have been overcome. The child will of course first be given a small violin, and will probably be eager to start learning. He or she may see mother or father playing and, as all children do, longs to imitate them. Such initial enthusiasm, however, would soon be supplanted by a rather ambivalent attitude, and in most cases it requires much parental coaxing and dragging in order to keep the child from abandoning the instrument. Indeed, practicing the violin provides at first only little intrinsic reward. It is probably fortunate that the ear of the young child lacks fineness of discrimination and that, while it acquires it, the skill of playing improves, too.

To start learning early is, of course, required in order to shape the child's motor skills and perception during the forming years. This is precisely of interest to the developmental cultural psychologist: that *learning to master an object implies shaping the development of the individual*; while, as we saw, the object was formed "phylogenetically," the individual is led to "fit" the object in its ontogenesis. This, of course, implies motor and sensorial adaptations – even transformations – of the learner. Let us consider them more closely.

Since about the end of the 18th century the violin is held between chin and collar bone. This position, more difficult but also more proficient than earlier ones, demands not only strengthening of the neck muscles, but also precise coordination of their innervations with movements of the left arm for position shifts – requiring an optimal balance between muscular tension and relaxation, between flexibility and precision of movements taking years to learn.

A second difficulty the learner has to master is the technique of the left hand. The child's fingers, particularly at an early age, need to gain strength and independence of movement, a precise "feel" for distances and pitches i.e., sensorial discrimination – particularly difficult since the space separating tone intervals diminishes the more the hand moves upwards. Finally, the left hand has to master the vibrato, important for giving volume and warmth to the sound.

All this will be compounded by the even more exacting bow work. The player holds the bow at one end, the "nut," and glides it in an apparently easy movement over the strings. Yet, how this is done will princi-

pally determine the quality of sound, and is therefore of major importance. The bow touches the strings in the space between the bridge and the fingerboard. To produce an even sound, the bow should move in a steady straight line – less easy than one might believe, because the “natural” horizontal movement of the hand traces an arc. Particularly important for the quality of sound are the speed of the bow movement on the one hand, the pressure of the bow on the other. For an even sound, both speed and pressure need to remain constant. Since the weight with which the bow rests on the string varies along its length, keeping pressure constant requires compensatory regulations by the bow holding hand, and this, of course, at all speeds. Further, the sound quality is influenced by the number of hairs which stroke the strings. For this reason the player will hold the bow at a sideward inclination, which, thus, must be kept constant or varied according to the sound desired. Of course, the bow movements must be coordinated precisely with the fingerwork of the left hand. Add that straining the muscles of neck, shoulders and arms will be an impediment; accordingly, a delicate balance between relaxation and activation will have to be achieved. Any psychologist who has ever tested motor coordination of children will agree that such a complex interplay of movements is very difficult to learn; even advanced students will often have to concentrate on their bow much more than on the left hand.

The sensory and motor learning required, the development of discrimination, rhythm, muscular strength and coordination, is a process which takes years, with daily training hours definitely longer than many a psychology student is willing to spend on his books or experiments. Becoming a violinist allows no short-cuts, no jumping of chapters one doesn't like, no skipping of arguments one does not understand; ignorance cannot be glossed over by empty works. In music every negligence becomes cruelly manifest in the performance, and therefore the learner is bound by an unrelenting discipline – which inevitably will transform his person.

The initial results of learning, thus, would not be very rewarding. The sound remains crude, harsh, often disagreeable, the strings bite the fingertips, the skin of the chin gets irritated, and even social reinforcements, after a while, may become rare – the admonition to “close the door of your room when you practice” is not particularly encouraging. In spite of that, the child will have to practice daily, often at hours when

other children play together. We can thus easily understand that the violin will become an ambivalent object, and that many young learners abandon after a while. The discomfort and constraints they experience become reminders of a limited action potential, of object-derived barriers and social constraints, and such an antagonistic object may even represent the «non-I» in general, the external world basically opposed to the «I» [as to this «I»-«non-I»-antagonism, see Boesch, 1983 and 1991].

Yet, some children “catch on.” They accept the frustrations of learning because of the positive valence of some future goal. This future goal may be to conquer an adversity, to extend and confirm the individual action potential; it may also be social – to become a famous violinist, or at least to be able to play quartets like father. However, such explanations do not suffice to understand the child’s motivation; they only displace the problem. Indeed, the reinforcement of an action potential would still have to explain why the child strives to achieve this *particular* mastery, and the explanation by social models would have to understand both the valence of the model for the child, and the motivation of the violinist he or she wants to emulate. And if playing the violin would earn social rewards, what then would make the public appreciate music? Explanations by social modeling or some unspecified mastery seem indeed inadequate for explaining the frustration tolerance and the perseverance of a learner.

In the terms I use, learning to play the violin is a *dominant* or *superordinate* goal. Superordinate goals are distant in time but command actions in the present, which – as with violin exercises – may not be pleasant in themselves. It is true that distant goals will usually be reached in steps, so that intermediate rewards may strengthen the motivation. Yet, the applause experienced on the way may provide encouragements to go on playing, but they will not suffice. The more the player advances, the more an additional audience will have to be satisfied: *he himself*. He will be critical of finger accuracy and speed, but as critically – if not more – he will watch and evaluate *his sound*. “*His*,” it is here, and not the violin’s. In fact, he may be hurt when a listener tells him “You must have an excellent violin, it sounds marvelous!” He wants to feel that it is *his* mastery which forces the violin to sound well. However if, his level of expectation rising, he feels disappointed with the sound, he may start haunting the violin-shops to have his instrument controlled, improved, or changed for a “better” one, and on doing so he will compare the

“sound of violins.” But then he will again spend hours a day only to improve *his* sound with the new instrument to reach that elusive quality of tone which he feels to be moving, “going to the heart,” undefinable and yet inducing a reaction of content and fulfillment in the happy moments where he feels to have reached it.

Sound and noise

What then is it which makes beautiful sound become such a dominating goal? In fact, sound is a very important quality of our perception. Sound says what words don't say. Words remain restricted to consensual taxonomies and are largely unable to express subjective states. Saying that I am angry does not necessarily mean that I *feel* angry – but the tone of my speech shows it. Tones betray our moods, convey love or anger, acceptance or rejection, joy or fear in a way which “grips” immediately – the tone of *our voice is the direct external trace of inner qualities*.

What, however, of the sound of the *violin*? Let us distinguish two aspects. The first is the action of *making objects produce sound*, the second is the *search for perfection of sound*. As a boy I used to tighten a blade of grass between my thumbs and, by blowing into the gap formed in this way, produced a sharp, oboe-like sound. In spring I cut fresh branches from hazel or ash trees and made them into recorder-type flutes. Each time, doing so, I transformed nature into “culture,” shaping natural raw materials into forms apt at producing sounds which did not occur in “pure” nature. Yet, the pleasure was immense and can be understood only by the extension of my childish action potential; it made me a creator, albeit in a tiny area. Making objects sound, thus, is a bit like taming animals: *it transforms a resistant non-I into a compliant extension of the I*.

Such sounds, however, although exciting and pleasing, only rarely – and by accident – fulfill any standards of beauty. The *beautiful* sound is moving, it touches our feelings with a particular intensity. Myths and fairy tales illustrate the miraculous power of the beautiful sound: it tames wild animals and ghosts, heals the sick and appeals directly to the angels; Orpheus' voice even opened the doors to the underworld. Somehow we feel that producing a pure, immaculate sound provides the experience of an optimal action potential, able to realize perfection – although only for

the fleeting moment of the sound's duration. The experience I mean is very pointedly expressed – although in the realm of color – by the British artist Ben Nicholson who writes on seeing a painting by Picasso:

And in the centre there was an absolutely miraculous *green* – very deep, very potent and absolutely real. In fact, none of the actual events in one's life have been more real than that, and it still remains a standard by which I judge any reality of my own work . . . (Summerson, 1948, p. 7).

And Gauguin, to express the strangely real–unreal quality of such experience, wrote: “The sound of my wooden clogs on the cobblestones, deep, hollow and powerful, is the note I seek in my painting” (Hughes, 1988, p. 77). The statements are surprisingly similar – a certain tone of color or sound, experienced as *potent and powerful*, become standards, should-values, goals of aspiration.

We sometimes imagine a world entirely in harmony with our fantasies, entirely in tune with inner experience; we call it *utopia*, and reaching it is a topic of dreams and fairytales. Utopia, we might formulate, abolishes the «I»–«non-I» antagonism. The beautiful sound we aspire to would have to correspond to – or even to surpass – our ideal standards, conferring on them at the same time a reality external to us. Would it not then prove our potential to create utopia, even though in a very limited way? Being nothing but sound, a transient, vanishing trace of our skill, it still would symbolize the existence of perfection and our potential to attain it. This is, of course, not true for the beautiful sound alone, but for any creation of beauty; beauty bridges the chasm between I and non-I. Unlike other forms of art, however, the beautiful sound, by its very ephemeral nature, remains unreal and intangible and hence commands connotations and imaginations of a particular quality.

Beauty, however, is neither the same for everybody, nor in each culture or historical period. A Thai will appreciate other sounds than a European, and the sound of violins at the time of Bach differed from ours. Today we might say that a beautiful sound has, above all, to be *pure*, meaning, on the one hand, free of noise frequencies, on the other, accurately in tune. The first sounds a beginner tries to elicit from a violin will be noisy, scratchy, raw, and tend to be out of tune; in learning to play a main effort consists in eliminating these impurities. In addition, the sound must have *volume*, extended evenly over its duration. An uneven bow movement produces an unpleasingly vacillating tone, which,

however, should not be confounded with the vibrato, an intended, rhythmic, although minimal variation not of volume, but of pitch. Sound, furthermore, should be *appropriate* both to the “*spirit*” of the time and of the particular music played. Thus, the tone of a jazz clarinet or of a Gypsy violin would not be appropriate to Mozart’s concertos, but neither would a Mozart clarinet fit into a Swiss yodel band. Of course, beautiful sound will always be defined also according to *subjective standards* – whatever they be. The ideal a player pursues may veer towards more warmth, or towards more strength and clarity, the one will accentuate the vibrato more than the other – there will be subtle differences between players which sometimes only the initiate, or the player himself, will be aware of.

Purity of sound has obviously been of long lasting importance in European musical culture. Thus, the violin is tuned in fifths which are the purest intervals, neither consonant nor dissonant. Until after the romantic period, European music favored consonant chords; dissonances, of course, occurred (as in Bach’s polyphony), but were transitional, not “standing” chords, having to be resolved in harmony. It is only in the music of our century that dissonance has acquired an independent, more than transitional, value. In contrast, in Thai music consonant chords are of no importance; Thai music is linear, not harmonic, it coordinates melodies. Consequently perhaps, the purity of tuning appears to be of lesser importance; Morton speaks of a “‘rough and ready’ approach to precise tuning” (1976, p. 28). We might add another reason: It may be the *symbolism of pure sound* which is important – consider for instance that in Thailand, in contrast to Europe, religion played no significant role in the practice and development of music.

In *modern Europe*, however, we meet musical styles which not only do *not* aspire at a pure sound, but on purpose introduce *noise*. Louis Armstrong cultivated a hoarse voice in singing, and similarly the shrieking of saxophones and clarinets in modern pop music are intended by their players, and may even also require long training. They would not sound beautiful in every ear, but they are, in their own ways, congenially expressive.

Such examples might throw additional light on the meaning of sound. In modern rock concerts the hard jangling of metal guitars is combined with the hoarse shouting, screaming, screeching of singers – they seem to enjoy noise, and their public does so visibly and audibly. But also so-

called "serious" modern music frequently makes use of various kinds of noise: purity of sound tends, in whole or in part, to be abandoned.

Noise is "sound dirt," and it seems no coincidence that rock musicians have also tended to cultivate a dirty look: unkempt, unshaven, ragged – or at least to affect "out of place" clothing, from torn jeans to Madonna's bras and girdles ("Dirt," says Mary Douglas, "*is matter out of place*" [1966, p. 35]). However, noise and dirt are normal occurrences of everyday life; to keep them away demands discipline, effort, and is related to much social constraint. Cleanliness is required in "good society," and purity, of body and mind, is needed in approaching sacred things and places – otherwise the approach might even be dangerous. Hence, dirt can become a threat, and so can noise – to oneself as well as to others.

In fact, the meaning of noise can differ widely. It accompanies bodily discharges and thus is directly related to dirt and disease; it marks catastrophes, accidents, disaster, war, aggression; it signals a threat from dangerous animals, and nowadays belongs as well to powerful engines roaring through our settlements. But noise can also herald happy events, the convivial feasting, the exuberant joy, the triumphant success, the exhibition of power – easily, however, degenerating into the noises of drunkenness. Noise (in the sense of not purified sound) can even possess aesthetic qualities: the rustling of leaves in a breeze, the murmur of water in a creek, the lapping of waves on the shore. [The German distinction between *Geräusch* and *Lärm* does not exist in English.] Altogether we might say that noise tends to belong to earthly, natural events, but also to out of ordinary occasions. Pure sound, on the contrary, rarely occurs in nature – with the exception of singing birds. The pursuit of beautiful sound, thus, is a truly cultural endeavor, and the long history of creating instruments able to produce pure sound, as much as the individual efforts at mastering them, prove the importance we attach to it. Pure sound is a *mytheme*, corresponding to a *myth of purity* which relates the individual to a social as well as spiritual order – and which, by the same token, opposes the anti-order symbolized by noise.

European music, often and for a long time, was a means for approaching God. *Soli Deo Gloria*, wrote Bach over his compositions, and even recently Sir George Solti, the famous conductor, confessed that Mozart had convinced him of the existence of God. Introducing noise in music,

hence, implies rejecting the cultural mytheme representing purity, including both its social and its spiritual contents. In other words, it means shedding constraints and becomes the symbolic realization of unhampered freedom – somehow, it too represents utopia, but of a Dionysian kind (as opposed to the Apollinian – to borrow Nietzsche's dichotomy). The ecstasy such music can produce in many young and less young people relies on this symbolism which is reinforced by sensorial excitement. Sound ideals, thus, can cover a wide spectrum. Noise can be pursued as obsessively as purity of sound, but they express different myths and fantasms.

Let us come back to the violin which, as we have seen, is the result of a culturally persistent quest for beautiful sound. It belongs to the ideational realm of purity. Hence, the young learner will from the very outset be caught between the cultural goal of purity and the natural propensity (not only of children) for noise and dirt. The violin, thus, may begin to symbolize not only the resistance of the object world, but also the conflict between natural penchants and cultural requirements.

It will then follow almost necessarily that becoming involved in learning the violin must have an impact on the definition of the learner's *self*. Somehow, to some extent, the child will have to side with purity, he or she will veer towards the Apollinian side of utopia. This, of course, implies renouncing those sides of the "natural self" which prefer noise, dirt, disorder, so that mastering the violin then may symbolize this fight against the "darker side" of one's self. However, the violin, representing the – perhaps only anticipated, perhaps already experienced – potential of producing beautiful sound, will also symbolize the "aspired self." Thus, over and beyond simple mastery of a recalcitrant object, learning the violin would mean both overcoming the rejected sides of one's self and approaching one's self-ideal.

All this would also influence the learner's *view of his world*. He would tend to see it divided into a "we-world" and a "they-world." The "we-world" includes all those who embrace the same values, the same quest for the pure sound. They are the ones who support the individual's views and actions, and among whom he would choose the "alters" relevant for his self definition. The "they-world," of course, would be the others who either do not care for, or might even loathe the pure sound and what it represents. In this more or less dichotomized world the violin becomes instrumental – not only in the sense of producing sound, but somehow also for propagating its message.

Sound, indeed, is a signal: it carries a *message*, but it also *is* the message. In this sense, using Raymond Firth's taxonomy (going back to Peirce), the pure sound is more than a signal, it is an *icon*, i.e., "a sign that represents its object by resembling it" (1973, p. 61). The musician, thus, both is a messenger and represents the message. If I remember correctly, both Henryk Szeryng and Yehudi Menuhin carried diplomatic passports, and were considered "ambassadors" spreading a cultural message. Of course, such an ambassadorial role cannot simply consist in playing the violin, however fine that might be; it is perceived more or less consciously as "spreading the gospel of purity" – whatever values the individual may relate to it. Somehow this "messenger" quality is ritually enacted in every concert: The musicians, in an elevated position, dispensing their message to the public, whose reactions are carefully ritualized. In church concerts, by the way, even applause is forbidden: noise definitely does not belong to sacred places. But even in the concert hall, the applause is distinctly different from the one in rock concerts where noisy music and noisy manifestations of the public somehow create a bond of similarity between the two sides. The message differs, and so then do the rituals.

Sound is more than a message: it may also *carry power*. In "*L'histoire du soldat*" by Stravinsky and Ramuz the violin not only symbolizes the antipode of material wealth and might, but it conveys to the player the power of a different kind: To heal, to exorcise, to protect from evil forces. This belief in power related to the realm of purity and order is widespread. A magician has to beware of defilements in order to conserve his powers, and the ubiquitous fear of impurity – although differently defined according to culture (see Mary Douglas' analysis of pollution [1966]) – is a telling expression of this belief. The power of the sound derives, of course, from its spiritual symbolism, but it too requires purity of the player: Stravinsky's soldier had to renounce his worldly wealth and subdue the devil before being able to use the power of his violin. Purity of sound, purity of heart, purity of body, thus, all belong to the same myth – although with different connotations.

In this vein, the beautiful sound *is* pure, yet never as pure as the idea it expresses. Hence, the pursuit of the beautiful sound aims at a goal which will always remain "a step ahead": not the beautiful sound experienced, but the *more* beautiful sound is the real goal. It is a sound model, a should-value, never present and yet intuited. Nicholson, of course, did not intend to reproduce Picasso's green: his experience of it implied the

intuition of a transcending perfection, yet pursued without knowing it. Such quest for the “still more perfect,” the “still more satisfying” object or action corresponds to a widely shared myth; it expresses an intuitive anticipation of “realities beyond” the present, but also the anxiety of missing fulfillment, of losing power.

The sound of the violin, thus, is deeply embedded in cultural myths, and the individual becoming a violinist will, intuitively rather than consciously, be drawn into the orbit of these myths; but she or he will construct their personal meanings by merging them with subjective experiences and aspirations. Every musician will relate the “mytheme of the pure sound” to different kinds of purity and order, and the pursuit of the beautiful sound will for each carry his own private, and often unconscious, connotations. In this way myths, constituting cultural cadres of orientation, will be given personal relevance by the individual’s fantasmic aspirations.

We can now understand the person-violin dyad as a kind of focus within an individual’s total «I»–«non-I» relationship, polyvalent and interrelated with various areas of meaning. One aspect, however, appears to me to be of basic importance in the player’s pursuit of beautiful sound: to be able, *by himself, to overcome the antagonism of objects*. The violin, we have seen, is a recalcitrant object, and to master it requires profound transformations of the individual. Yet, this accommodation of the player for assimilating the object promises, in the long run, particularly rewarding returns. Indeed, the sound felt to be perfect can be produced only by a perfect fit between instrument and player. Assimilation and accommodation cannot be separated anymore: artist and violin form a symbiotic whole, the I, so to say, blending into the object, and the object melting into the I. As long as it remains imperfect, the sound is experienced as antagonism, but when perfect it becomes the symbolic proof of unity, of a cleavage overcome – or in the words I already used, it symbolically confirms our very personal potential to reach utopia.

The sound trace

All these considerations, somehow, leave a feeling of incompleteness. *Beautiful* sound is certainly more than *pure* sound. But what is it that makes it beautiful? Let me recall here a paradigm I resorted to in several earlier publications: the one of the *trace*. Traces are, in the

sense used here, the material imprints of our actions in the external world. We leave, of course, thousands of traces, but some of them possess particular qualities: they faithfully mirror the movement which produced them. I liked to use the example of a skier's track on a slope of fresh snow. We know that every change of movement in our legs, hips, shoulders or even arms would change the nature of the trace. Similarly, the violinist feels that the inclination of his wrists, the weight of his hand, the contraction of his shoulders would express themselves in the quality of the sound: the sonority of his violin mirrors faithfully, sometimes cruelly, the perfection, or even grace, of the movements – and thereby the person – of the musician. In the same way as our voice, manner of walking, or even the look of our face, the sound is indeed felt to be symptomatic of “our self.”

Such symptoms, however, may express various aspects of our self, excitement or calm, anger or tenderness, serenity or worry, which, although being momentary affects, often signify permanent qualities as well. Thus, the musician might tend to substitute the word *expressiveness* for “beauty” of sound, thereby allowing himself to vary his sound from soft to harsh, from cool to warm; in a moment of wrath he may even abandon the ideal of purity and violently scratch his strings instead of stroking or caressing them. Aiming at expressing himself, the musician's sound turns into an idiosyncratic trace.

The quality of the sound being a faithful trace of the individual's movements, and those being felt to express his or her person, there thus will start a subtle process of self-regulation which reaches far beyond the mere efforts at improving one's sound. The so-called “technique,” the acquisition of the correct movements, will be complemented, even guided, by a search for inner qualities. In our high-school orchestra, having difficulties in creating a high pitch, all of the sudden the conductor advised: “You have to *think* the note before playing it!” – and, to my surprise, it worked. The *inner* performance had to guide the actual one. Motor skill is not sufficient, but requires support by a mental discipline. Mastery of the instrument, then, turns into mastery of oneself.

A single sound may resemble a straight line, but traces result from movements in progression. Sounds tend to follow a course – they cannot just rest on a single note; any note somehow “searches” its completion, it “pulls” the player ahead. Thus, beauty of sound becomes, necessarily, the beauty of a melody; it includes flow, transitions, relations – in

short, it resides in the quality of the trace. The trace of the skilled skier becomes aesthetically pleasing by an effortless elegance of its curves, and similarly the beauty of sound consists in a smooth flowing through the meanders of the melody.

Thus, sound becomes truly beautiful only by being extended, sustained throughout a melody. A single sound may be touching, like a soft word, but a soft word is not yet soft speech – the word would hint at, but not yet demonstrate softness. Only when purity of sound spreads over musical phrases and ranges can it symbolize the permanence and pervasiveness of inner qualities. Real mastery proves itself in the form and quality of a trace, but hints at a perfection beyond music.

However, a violinist may master a beautiful sound over long sequences, and yet may not move the listener. Beauty also requires “style,” interrelated qualities such as rhythm with its hesitations and accelerations, volume with its crescendos and diminuendos, variations between softness and vigor. Style, by its elasticity and versatility, expresses inner freedom – to play a melody beautifully demonstrates the potential to *create* beauty. By his “interpretation” the artist shows his ability to transform the dead matter of musical scores into a living, somehow “catching” experience – for himself no less than for a listener.

To do this, he needs the musical phrase which gives the sound its course and duration. But he also needs *contrast*. In fact, music *is* contrast – as we already found in comparing sound to noise. Imagine a Matakam youngster promenading in his village with the simple hand-harp shown in Figure 13.3; he nonchalantly strums the instrument while parading among the girls whom he knows are peeping out of their homesteads. The soft, almost timid sounds of the instrument strangely contrast with the laughter, shouting, or the loud discussion of arguing men. Similarly, the sound of a violin would contrast with the blaring of trumpets or the bangs of a gong. It is certainly no accident that drums, trumpets, and fifes were instruments for martial music, while harps, flutes, lutes, or violins became instruments of relaxation, meditation, poetic imagination or courtship. Contrasting with the noise and clamour of everyday life, the invention of string instruments was significant for the development of those sides of man and culture which relate to inwardness, contemplation and spirituality.

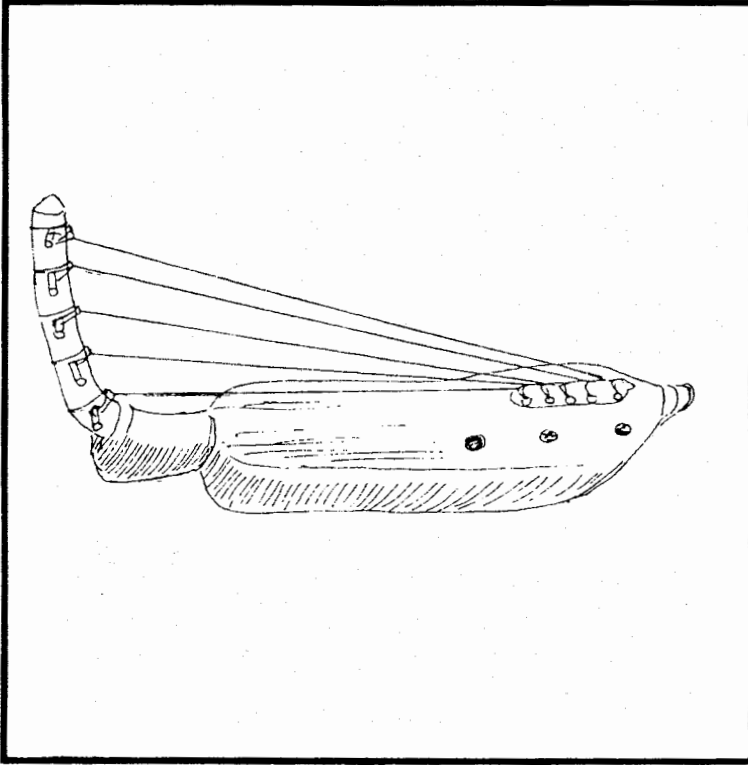


Figure 13.3.

Contrast, of course, also occurs within a melody: it belongs to the versatility required for expression. But contrast also occurs whenever a piece of music reaches its end. The trace not only evolves, but it strives toward what musicians call its *conclusion*. Musical phrases always come somewhere to rest: they necessarily end in silence.

In this, now, the melody differs from the ski-trace which, as an external reality, can last as long as no other skier obliterates it. The sound, however, although real, even measurable like an object, has no permanence. Menuhin lowers the violin, the conductor halts the orchestra – and the sudden silence throws the listener back into his ordinary existence. Applause may offer a means for softening the transition, but we all have experienced the strange, unnameable uneasiness after a church concert where, lacking the release of applause, one has to steer oneself back into “reality.”

The silence in which music ends has profound importance. It emphasizes that musical sound results from an intimate symbiosis of man

and object which never can be more than a renewed attempt at overcoming the chasm which separates I from non-I, a reaching for a perfection which cannot last. But in the silence will also emerge the wish not only for repeating the experience, but for surpassing it. The pursuit of the *more beautiful* sound is born from the experience of beauty and the anxiety of losing it. Music, thus, continuously needs to be *re-created*.

Conclusions

We have now gone a long way, from the mere construction of a material object through its various stages of development to cultural myths and, finally, to object–subject relationships. Thus, the violin *as an object* is first, in Lang's (1992) terms, an "external memory," reminding man of potential uses, their requirements and rewards. Yet, the same object, by the same token, symbolizes myths and the values of the cultural group they entail: learning to master it, therefore is an action of taking sides. But the apprenticeship also implies a *promise*, the anticipation of a not yet realized potential of action. In this sense, the actual object is just the momentary focus in a continuous process of «I»–«non-I» interaction, implying transformations of the object in the attempt at improving it, as well as transformations of the subject in acquiring mastery.

We have, in these pages, mainly concentrated on the isolated action of playing the violin; we neither looked at the more complex performances of music, nor did we consider the extended social fabric within which the pursuit of a beautiful sound takes place. Indeed, much more would have to be examined should we like to make an encompassing study of the actions of building, learning, and playing the violin.

Yet, "the sound of the violin" was a paradigm for more general problems; it exemplifies the cultural as well as individual construction of objects; it demonstrates the extent to which these processes do not simply produce some isolated mastery, but systems of meaning. Mastery is not independent of goals, and goals are polyvalent and anchored in networks of coordinated action, of thought, belief, rules and values. More than that, objects are in movement, they change with the flow of culture on the one hand, with the nature and progress of individual actions on the other.

Action and object, thus, concur to form combined structures; mastering the violin, we saw, will ultimately unite man and object in that intimate symbiosis resulting in the beautiful sound, and we are likely to find comparable interactions in man's use of other objects. Already the invention of an object implies *objectivation*: the subject transforms an idea into external reality. In mastering the object, the player will in turn assimilate, and thereby *subjectivize* it, while he or she will simultaneously be objectivized by accommodation. In addition, the creation of an object implies its *socialization* – it will be integrated in common frameworks of action and ideation, and hence the mastery of the object entails an *enculturation* of the user, but also, by the individual variations in style or ways of handling the object, an *individualization* of culture. The interaction circle <object–user–object> is at the same time an interaction circle <culture–individual–culture> and implies progressive transformations at all levels. Piaget's model of object construction turns out to be valid not only for physical, but also for cultural objects; the construction processes involved, however, will become more complex, both with respect to subject–object extensions and to layers of meaning, and the interaction subject–object will have to include both proactive (subject → object → culture) and retro-active (culture → object → subject) influences.

All this, I believe, will lead to much more adequate models of reality than traditional psychology could ever achieve. Cultural psychology, in this vein (and following Jerome Bruner's claim), would necessarily have to precede all other psychological investigations not because cultural psychology would tend to claim more importance, but because any psychological research would have to be localized within the total networks which action creates. We may, indeed, study the sound of the violin as a limited phenomenon, yet, only by being able to make evident its multiple implications would such a study become meaningful. Paracelsus coined the maxim "*nihil humanum mihi alienum esse potest*," and it could fittingly be a maxim for cultural *psychologists*; the *humanum*, however, the human ways of being and acting, constitute complex systems, and should we neglect these, human reality will indeed remain alien to us. "Human reality"? Does not the incessant pursuit of a more beautiful sound reveal paradigmatically that a main trait of human reality is to transcend itself? Then, our example would have uncovered the very essence of culture formation.

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