

## Commentaries on 'Effector patterns of basic emotions' by S. Bloch, P. Orthous and G. Santibañez-H

---

### Commentary by Ross Buck

This paper makes a significant contribution toward formally and explicitly relating research on emotional expression to the phenomenon of acting. George Burns once remarked that the secret to being a good actor is honesty: 'If you can fake *that*', he said, 'you've got it made'. The ease with which humans and other animals can convincingly fake emotional expression is remarkable. There is evidence for specific neural mechanisms allowing monkeys to voluntarily initiate (without apparent affect) calls that are identical on the sound spectrograph to spontaneous emotional calls (see Jurgens, 1979; Ploog, 1981). Such a 'built-in' ability for affective lying is probably necessary for the maintenance of orderly social relations. Acting builds upon this ability, but this paper makes it clear that the convincing expression of emotion in a dramatic context requires much more.

One of the important theoretical points raised by this paper involves the question of the relationship between emotional expression and experience, for the question of the role of peripheral feedback in emotional experience continues to evoke controversy. One can argue that *any* peripheral response can become able to alter emotional experience through proprioceptive and interoceptive conditioning (Buck, 1980). One of the implications of this view is that through extinction or counter-conditioning, the experience should become decoupled from the expression. This may be what happened when the actors repeatedly 'stepped out' of the emotional pattern, and it could conceivably result in a protective bypassing of subjective involvement, as the authors suggest.

One question that must be asked of this, as well as any method of training or altering emotional expression, concerns the specificity of effect. Does the technique work because of the specific effects of the training or because of more general placebo effects, relaxation effects, and/or eduction of attention to internal bodily processes? Studies of biofeedback suggest that expected gains may often be due to non-specific effects (see Andrasik & Holroyd, 1983).

In any event, the approach taken by this paper is valuable in that it seeks systematically to describe emotional expression in a way which recognizes the simultaneous importance of body movement, breathing, and vocalization as well as facial expression. The criterion of success—the ability convincingly to express complex emotion in a dramatic context—is unique, and the possibility of a notation system based on this system is intriguing.

**References**

- Ekman, P. (1984). In (K. R. Scherer & P. Ekman, Eds): *Approaches to Emotion*. New York: Lawrence Erlbaum, pp. 319–343.
- Ekman, P., Levenson, R. W. & Friesen, W. V. (1983). *Science* **221**, 1208–1210.
- Ekman, P. & Oster, H. (1979). *Ann. Rev. Psychol.* **30**, 527–554.
- Ekman, P. (Ed.) (1973). *Darwin and Facial Expression: A Century of Research in Review*. New York: Academic Press.

**P. Ekman**

401 Parnassus Avenue,  
San Francisco, CA 94143,  
USA

**Commentary by Robert Lanchester**

Overall, I find the priorities of this method somewhat inverted. A tremendous amount of effort is made to gain access to, isolate, and express rather basic emotions. Although the authors state at the end that they do not wish to inhibit the actors' own imaginations and they do wish to avoid cliché, it would seem to me that these two unfortunate results would be most likely.

It may be that we are simply communicating across a wide cultural gap. I find that American actors, even beginners, usually have few problems with the sort of emotional expressivity aimed at being developed with this approach; they need a lot more work in the other areas of technique. So perhaps it is true in other countries that emotional inhibitions are more of a problem, and histrionic abilities less so.

Most of the exercises mentioned I know are useful in terms of isolating the parts so that you may use them better in the whole, expanding the repertoire of personal expression, etc. Particularly those numbered 3.1 through 3.2. I recognize and commend.

Two ideas or assumptions bother me:

(1) The system seems to be based on the old director-as-auteur/dictator pattern, with all of its concomitant impositions on the performers. This presumes that there is a 'correct' way to shape and score any text in terms of its emotional continuity and interpretation. All the texts which I am interested in exploring are filled with ambiguity and a wide range of opportunities for possible interpretation: I like to work using the actors' impulses as much as possible to find the particular shape for these particular people playing the roles. This usually leads to a much stronger production than slavish adherence to rigid preconceptions.

(2) The system makes the assumption that the 'correct emotion' on stage will provoke the 'desired response' in the audience. This is a total misconception of the way theater works, particularly with respect to physical, behavioral expression. Many's the time an actress has poured out tears which have no effect on the audience, whereas one dried-eyed actress can have them sobbing. So it is not so simple as the behaviorists would have us believe.

All in all, I compliment the authors on their willingness to involve a mysterious and complicated art form in their analytical studies. Apart from the necessarily reductive nature of analysis in general and a certain naiveté about theatrical activity in particular, they have achieved a limited codification of acting exercises which may indeed help some performers to expand their instruments both in range and flexibility.

**R. Lanchester**

McCarter Theater,  
Center for the Performing Arts,  
91 University Place,  
Princeton, NY 08540, USA

**Commentary by Serge Lebovici**

I read with much interest the paper written by Susana Bloch on the effector patterns of basic emotions.

I shall first explain the reasons of my interest and curiosity. Being a child psychiatrist and a psychoanalyst, I have worked for some years in the field of early interactions between infants and their care-takers, i.e. their mothers.

From the time John Bowlby described the theory of attachment and social interaction as patterning the human infants' interactions, many researchers felt is essential to keep in mind the fact that mothers and babies have a psychic apparatus.

In a recent book (Lebovici, 1983), I have described three babies in the mother's mind: (1) the baby in reality, as it appears at her eyes and in her arms; (2) the baby of her imagination, as it is encapsulated in her preconscious mind with the words representations, i.e. the baby of the transgenerational history; (3) and finally the baby of her fantasies and phantasms, of her unconscious wishes and conflicts, the baby of her father.

Baby 2 is the baby of her pregnancy wishes. Baby 3 is the baby of her early maternal wishes.

To speak of these two as babies 2 and 3, we must consider the affective exchanges between baby and mother as a real affective bathing is unifying for the two partners. Stern (1985) has, after many publications, described the affective attunement; it is modal and transmodal.

The affects are 'hungry' for representations and we may speak in these conditions of early protorepresentations and primitive fantasies on the side of the baby (Pinol-Douriez, 1984). Inside the baby and maternal care unity, the continuity of care is interrupted by incitations coming from the mother and we may speak with Gibello (1984) of an early 'epistemic' psychological object before any perception. This first protorepresentation is joined with the affective and emotional discharges, and this junction gives a first importance to the affective movements coming from mothers or from babies. The effects of the mutual synchronization of affects and their expressions tend to permit both partners representing to identifying and understand each other.

I speak here of affects more than of emotions. The difference between these two notions is rather strenuous. The emotion has a more psychophysiological connotation and the affect cannot be described without a qualification: depressive, angry, shamed, etc.

In any case, it is essential to remember that the affects are to be understood thanks to their various expressions in the muscular tonus, in mimics and vocalizations. But the channels for their expressions are multiple. Between mother and child, many competences allow each of them to answer the other very quickly and correctly (van Emde, 1980). Charles Darwin has shown that the young primates may catch the meaning of the facial expressions 'of the mothers'.

These are some reasons why the work of Dr Susana Bloch is so stimulating. It allows us to use an analogy between actors 'acting' with their spectators and baby-mother interaction.

If this analogy is possible, as I tried to show at the beginning of this comment, we have to consider the action of language, as described by Schafer (1976) and Widlöcher (1986), as the channel of early communications where interactions acquire meaning for the mother and her baby.

I proposed many years ago a general hypothesis along the lines of the Freudian hypothesis on the hallucination of pleasure by the reanimation of pleasurable mnesic

traces. I stated that 'the mother is cathected before being perceived'. I would now add, 'The baby is also proclaiming that her mother is a mother, because he is exchanging affects with her'.

These considerations, which I cannot develop more, are of great importance for the clinicians: we speak here of therapeutic consultations, when the primitive and reciprocal identification between mother and baby and the clinician are promoting real mutations. To know, to live, to share each other's emotions is more than an intellectual insight.

### References

- Emde, R. N. (1980). In (Th. Greenspan & G. Pollock, Eds): *The Course of Life I*. Adelphi: NIMH.
- Gibello, P. (1984). *Les Enfants à l'Intelligence Troublée*. Paris: Le Centurion.
- Lebovici, S. (1983). *Le Nourrisson, la Mère et le Psychanalyste*. Paris: Le Centurion.
- Pinol-Douriez, M. (1984). *Bébé Agi—Bébé Actif*. Paris: Presses Universitaires de France.
- Schafer, R. (1976). *A New Language for Psychoanalysis*. New Haven & London: Yale University Press.
- Stern, D. (1985). In (J. Call, E. Galenson & R. Tyson, Eds): *Frontiers in Infant Psychiatry II*. New York: Basic Books.
- Widlocher, D. (1986). *Metapsychologie du Sens*. Paris: Presses Universitaires de France.

**S. Lebovici**

*Université Paris-Nord,  
Département de Psychopathologie Clinique,  
93012 Bibigny Cédex,  
France*

### Commentary by Jean-Marie Pradier

Susana Bloch *et al.*'s article focuses on the main problems of the western theatre (1) as a laudable attempt to tie artistic behavior and scientific research, (2) as a renewed approach of the cultural choices which underlie the western acting style, (3) as a challenging proposal to the drama directors for fighting against the general weakness of many actors' training methods. The perspective is rich, even if not necessarily correct concerning the experimental results and the artistic consequences. It should be included in a true drama neuroethology to be developed in the not too distant future.

Drama—according to the western pattern—is a sub-ensemble of the human performing arts which apparently favors verbal behavior. It is a holistic activity based on the simultaneous life presence of performers and spectators. The very recent data on human communication in the fields cleared by neurosciences—ethology (Lorenz, Eibl-Eibesfeldt, Izard . . .), biochemistry of action (Laborit), neurobiology (Changeux), hormonal communication, paralinguistics, chronobiology—indicates that many parameters, most of them sensed but not objectively revealed and less more analyzed, constitute a performance as a whole. In particular, the internal audience activity seems to be sometimes more important than the actors/audience interaction (Pradier, 1980). Drama is often considered as the most conservative artistic activity, and scientific literature on the topic is extremely limited. Anatomy has been taught for centuries in fine arts schools, yet drama departments very rarely have courses on physiology. The vocabulary used in drama schools is often 'magic' and unrealistic as Jean Vilar has written in his book notes. However, this idealistic tendency has been severely criticized

by the sixties theatre movements (Jerzy Grotowski, Eugenio Barba, Chaikin, Julian Beck, Richard Schechner . . .).

In comparison with the performing arts of the far east, western drama is elementary. It is essentially based on verbalized realistic simulations by performers. Consequently, the upper part of the actor's body is much more active than the lower part. A commonly held belief is that the face is the most expressive support in acting: popular shows over-use grimaces. Furthermore, 'realistic simulation' is very tied to the cultural behavioral patterns: French actors are considered more 'rigid' than North American actors; South American actors are seen as being over-expressive because of their emphasized emotional expression. Among the eastern cultures, a similar comparison exists between bodily action patterns: traditional Indian dancers experience physical discomfort when they participate in a traditional Japanese dance. However, in these cultures acting as well as the expression of emotions is essentially supported by very precise ritualized body techniques learned at an early age.

In a way, Bloch's proposal enhances the western traditional values of the realistic facial expression of emotions. Recent discussions by Zajonc (*Science*, 5 April 1985; pp. 15–21), Fridlund, Nelson Gilbert, Izard and Burdett (*Science*, 8 November 1985; pp. 607–610, 687) illustrate the importance of the theory of emotions and the weakness of scientific studies on the topic for which one can merely find psychology generalizations or reduced experimental research. In moderating the results of recent experiments (Ekman, 1983), Zajonc (1985) claims that 'it is by no means established that all facial gestures that are classified as expressions are caused by internal subjective states'. While there is now strong evidence for pancultural similarities in the facial expression of strong emotions (Ekman, 1971), there is also evidence that cultures differ in the display rules for non-verbal communication. What appears to be needed for understanding how emotions work are new techniques for examining the whole process and new ways of thinking about them. Since the publication of *Le Paradoxe du Comédien* by Diderot (1770), opinions about emotions have reflected the cultural values more than the facts, especially where actors are concerned. A few non-verbal researchers have specifically addressed the problem of multichannel communication: an audience is confronted with live, reacting persons—on stage and inside the theatre—simultaneously giving off a variety of messages in complementary and sometimes competing channels of both non-verbal and verbal communication. Dittmann (1972) considers individual and cultural differences in the choice of channels for emotional messages: some people and cultures may favor the voice rather than the face. There is no evidence about the preferences of an audience for 'right emotional performance' according to the meaning of a drama text. It seems that human attention is more readily activated by the novelty of a stimulus than by the 'realism' of this stimulus: many earlier famous actors (Louis Jouvet, Sarah Bernhardt, Gerard Philippe, Jean Vilar, Greta Garbo) are considered today as very stereotyped and there is doubt that they would be as well received by a contemporary audience. We actually know nothing about the underlying processes of the actors' *presence*, even if anthropological comments indicate the importance of body rhythms. It is possible that the perception induced by patterns of motion, dubbed 'biological motion' by Johansson, is more important than the perfection of the imitation of an emotion by an actor.

In western culture, drama is the less technically established art. This is why the history of modern and contemporary theatre exposes the challenge of reformers who tried to diminish the weight of the text for the benefit of the actor's performance. This aim resulted in the proposal of training methods by a host of directors, among them E. G. Craig, Meyerhold, Copeau, Dullin, Stanislavski, Tairov, Vakhtangov,

Delsarte . . . and more recently Lee Strassberg, Jerzy Grotowski, Eugenio Barba, Julian Beck, R. Schechner, Roy Hart. In this theatrical archipelago, it is easy to observe two main perspectives (a) amelioration of the traditional western realistic acting style (Stanislavski, Strassberg); (b) a drastic change with the past in a syncretic methodology in progress deeply influenced by the far eastern actors' training methods.

Bloch *et al.*'s study is related to (a) even if it can be used by (b) at a lower level. As a matter of fact, (b) does not focus directly on conscious expressiveness but on the body's adaptive ability to react to physical situations. Suzuki—the avant-garde Japanese representative—trains the actors to work with their feet instead of thinking to express emotional states.

The main advantage of Bloch *et al.*'s proposal is that it helps actors to analyze the physiological foundations of the expression of emotions instead of over-using psychological introspective verbiage. A very important cue for narcissists. Physical analysis is the most difficult procedure to undergo for introverted and overly abstract people as many middle-class Latin actors appear to be (popular actors are much more concrete!). The main disadvantage of the method is that it could induce very limited stereotyped expressions and develop essentially the upper part of the body (face and upper limbs).

The experimental evidence does not appear to be sufficient: (1) Rosenthal's experimenter expectancy effect must be very high in this kind of study. (2) There is confusion between the realistic simulation quality and the acting qualities: the *presence* of an actor is not necessarily underlied by physiological realism; there are no precise data on this topic. The cultural parameters of the experimental audience are not controlled.

As a first step towards a better understanding of the actor's behavior, this study is a significant contribution.

#### References

- Dittman, A. (1972). *Interpersonal Messages of Emotion*. New York: Springer.  
 Ekman, P. (1972). In (J. K. Cole, Ed.): *Nebraska Symposium on Motivation, 1981*. Lincoln: University of Nebraska Press, pp. 201–282.  
 Pradier, J. -M. (1980). *Le faux, le vrai et le secret*. Thèse d'Etat, Paris 8.  
 Barba, E. & Savarese, N. (Eds) (1983). *Anatomia del Teatro*. Firenze: la Casa Usher.

**Jean-Marie Pradier**  
*Université Paris 8,*  
*Drama Department,*  
*2, rue de la Liberté,*  
*93526 Saint-Denis, France*

#### Commentary by Wolf Singer

A neurobiological evaluation of Susana Bloch's approach inevitably leads to a discussion of brain organization. Central questions in this context are, how particular functional states of the brain are stabilized and how transitions between these states can be accomplished. These questions are intimately related to the problem of how decisions are reached in complex and distributed systems.

Classical concepts of the brain have emphasized its modularity and hierarchical organization. The conceptual framework of this approach emerged originally from reflex theory and later from stimulus response paradigms of behaviorism. The brain was

considered as an interface between the sensory surfaces which provide the brain with relevant information from its environment and effector organs which mediate the responses of the brain to changes in the environment. The task of the brain was thought to consist of adjusting reactions to changes in the environment as a function of stored information about the success or failure of previous responses to disturbances. Furthermore, it was an implicit assumption that the brain as a serial interface between sensory and effector organs is itself hierarchically structured, decisions for the programming of co-ordinated behavioral responses being taken by centers occupying the highest levels in brain hierarchy.

On the basis of this conceptual framework, one would predict that the chances of success of Susana Bloch's approach are minimal. It would seem rather unlikely that particular central states would be inducible by modifying output patterns. One would rather predict that the appropriate way to induce specific changes in central states would involve selective modification of sensory stimuli. The brain would then adjust its central state to altered input in a more or less deterministic way.

Since Susana Bloch's approach is obviously successful and demonstrates convincingly that central states of the brain can be modified through a selective modification of output patterns, her approach challenges the classical concept of a hierarchically organized and essentially stimulus-dominated brain. This is a very timely issue because there is indeed now an overwhelming body of data on the structural and functional organization of the mammalian brain which supports the notion that the basic algorithms of brain functioning may indeed differ radically from the organization outlined above. First, it has become clear that the brain does not depend on signals from its sense organs for activation. The brain constantly generates highly organized patterns of activity which designate well-defined functional states. This is seen most clearly during early development when brain structures are spontaneously active and when this activity is used to promote the development of the system. Correlated activity patterns are used during this phase to identify functionally related neuronal centres and to establish selective connections between them. Another example from the mature system for ordered self-generated activity is sleep. Here, also, the brain generates highly organized activation patterns in the absence of any meaningful sensory stimulation. The vividly experienced dreams which are completely unrelated to any simultaneous sensory input are a particularly impressive support for this fact. Second, the concept of a serial organization of the brain with high-level structures in the hierarchy reserved for the central co-ordination of brain states has not received any experimental support. It turns out that there is no such unifying, decision-making center in the brain which would occupy the top position in a pyramid of sub-ordinated centres and which could be made responsible for a centralized co-ordination of state transitions. Neuroanatomical and neurophysiological data rather favor the notion that the brain is a highly distributed system consisting of many specialized modules which are massively interconnected with each other through reciprocal connections and function in parallel. Even though we lack full understanding of how decisions are reached in such a distributed system and how the various modules are co-ordinated in order to yield functional unity, we are led to conclude that transitions between states are not the result of a central command emitted from an unidentified meta-structure but result from 'democratic' interactions between modules all acting at the same level of hierarchy. Third, recent anatomical and electrophysiological data provide convincing evidence against the notion that the central nervous system functions as a serially organized stimulus-response machine in which the flow of information is mainly unidirectional from receptor surfaces to processing units and subsequently to

effector organs. Quite on the contrary, the main connectivity scheme seems to be one of reciprocity. With only a few exceptions, both sensory and effector organs are linked to the nervous system with reciprocal connections. Thus, the brain has the option of controlling the sensory inflow already at the most peripheral levels and very often these efferent connections are more numerous than the afferent sensory pathways. Likewise, any adjustment of effector organs by efferent pathways is signalled back to a large number of brain centers by re-afferent feedback loops. In addition to these peripheral feedback loops there are further numerous internal connections between motor and sensory centers which serve to inform sensory processing areas about self-generated activation states.

It follows as one obvious consequence from these new concepts on brain organization that the central state of the brain is not solely determined by the pattern of sensory input but is the result of a very large number of variables whereby self-generated activation patterns play at least as important a role as stimuli from outside. In particular, it is not too difficult to imagine on the basis of such extensive reciprocity that repeated execution of particular responses can, through back-propagation, recruit activation patterns in brain centers which are not directly involved in the execution of responses but which through previous learning have been associated by selective stabilization of pathways with particular response patterns. Thus, if particular activation states in brain centers responsible for the coding of emotional contents have been associated previously through learning or through inborn connections with certain behavioral responses, it is not difficult to see how execution of the behavioral response can lead through reciprocal connections to the reactivation of the corresponding activation pattern in emotion-coding structures. In this context, Susana Bloch's approach can actually be considered as a psychophysical experiment aimed at testing the working hypothesis that there is back-propagation from behavioral responses to motivational states. The outcome of her experiments clearly argues against the classical way to consider the nervous system as a stimulus-response machine and is in excellent accordance with the more modern view that emphasizes parallelity and reciprocity as the main organizational principles of the brain. These principles of organization imply that self-generated activation patterns and stimulus-independent fluctuations between different behavioral states are presumably much more important determinants for actual states than afferent sensory signals.

**W. Singer**

*Max Planck Institute for Brain Research,  
Deutschordenstrasse 46,  
6000 Frankfurt 71, FRG*

#### **Commentary by Frederick Turner**

One interesting aspect of the Bloch/Orthous/Santibañez paper is that it demonstrates a method by which internal affective states can be created by conscious intention using specific techniques. Those ancient genres of performance, ritual or theatrical, reveal themselves as psychic technologies designated to exert control over the endocrine and neurochemical functions associated with the limbic system.

The systematized and measured series of training exercises and performance experiments that the authors describe are in fact a formal version of human artistic and religious training and practice all over the world as far back in time as we have evidence. Those

exercises and techniques, simplified by necessity in the behavioral laboratory, include in real life such practices as ritual dance, theater, and chant, guided dreaming, musical performance, the sensitizing of visual perception by means of mental imagery controlled by artistic representation, poetic meter, ceremonial action and gesture, contemplative and meditative systems, martial arts training, and so on. These techniques essentially use sociocultural means to add a new control feedback loop to the nervous system of the human animal. That feedback loop has its own appropriate vocabulary, which accurately describes its operations, constants, and variables: the vocabulary of spirit, beauty, ethics, honor, morality, truth, the beatific vision, and so on (Turner, 1985).

Most interesting of all, perhaps, is that these psychic technologies are matched, apparently, to neurophysiological systems designed by gene/culture co-evolution for precisely those very functions I have described. In other words, our ability to change our brain state and neurochemical balance by these techniques is a wired-in sensitivity requiring only acculturation to be fully expressed. Like our wired-in capacity for language, it may even express itself partially even without a clear sociocultural trigger.

What Bloch *et al.* are rediscovering—and, for the purposes of science, discovering for the first time—is something that artists have long known. Thoreau puts it thus:

I know of no more encouraging fact than the unquestionable ability of man to elevate his life by a conscious endeavor. It is something to be able to paint a particular picture, or to carve a statue, and so to make a few objects beautiful; but it is far more glorious to carve and paint the very atmosphere and medium through which we look, which morally we can do [Thoreau, 1854 (1969)].

And this is Shakespeare on the same subject:

Is it not monstrous that this player here,  
But in a fiction, in a dream of passion,  
Could force his soul so to his own conceit  
That from her working all his visage wanned,  
Tears in his eyes, distraction in 's aspect,  
A broken voice, and his whole function suiting  
With forms to his conceit?

Suit the action to the word, the word to the action, with this special observance, that you o' erstep not the modesty of nature [Shakespeare, 1623 (1968)]

### References

- Shakespeare, W. (1623). *Hamlet*, II.ii.577, III.ii.19. In (G. B. Harrison, Ed.): *Collected Works*. New York: Harcourt Brace, 1968.
- Thoreau, H. D. (1854). *Walden*. Columbus, Ohio: Merrill, 1969, p. 98.
- Turner, F. (1985). *Natural Classicism: Essays on Literature and Science*. New York: Paragon House.

**Frederick Turner**  
*School of Arts and Humanities,*  
*University of Texas at Dallas,*  
*Richardson, TX 75083-0688, USA*

### Commentary by Horacio Munoz Orellana

To put it simply, I have been working with professional actors and theatre students for over 12 years using the Bloch *et al.* system of the expression of emotions with great success.

The system does not 'make' an actor, as no technique does. Nor is it an aesthetic principle. However, it is simpler and freer to work with an actor who moves and speaks at ease. Furthermore, it is even easier to work with actors trained in the expression of the emotions, without fear, hang-ups and other difficulties encountered in daily practices. It opens a dialogue and a search/experiment between actors/directors, being free/easy because the actors *know how* to cope with any demand he (the director), the role, or the public may impose.

The amount of time saved in the rehearsals is in the order of 60%, so we can try many different solutions, and other ways can be explored and experienced in a more thorough search for artistic aims. The working atmosphere becomes more relaxed, joyful and creative, because the actor knows how to *repeat at will* whatever is found. We can take bits of one or another experience and create new expressions. The actor is not afraid of going in wrong directions, because we can 'erase' at will any result that does not work. We can explore 'illogical' possibilities in a role to be free from the usual clichés. After a series of rehearsals, the actor begins the process of transforming the technique into a creation. With the analysis already done in a practical way, this part of the work becomes devoid of unnecessary tensions. The actor who is trained in this technique develops a strong individuality: there are no two people who express emotions in the same way because that would require two identical bodies. Nevertheless, the basic structure is objective and universal. (1) The actor concentrates more deeply, because the sequences of emotions he has to play are concrete. (2) The 'step-out' technique saves energy and allows the actor to control the creative process at will and without unwanted side-effects. (3) The actor develops a greater capacity of observation, because he learns where to direct his attention. (4) The technique avoids 'intellectualism' and develops practical ways of doing this on the stage. (5) It protects the actor from using his own emotions and experiences on the stage (this may or may not be used during rehearsals), therefore protecting the mental balance of the actor. (6) The actor goes beyond his own personal life experiences and limits, to the unlimited needs of the role. (7) It can give an extra content to the emotions, therefore greater depth, in agreement with his or her artistic aims. (8) It allows the expression of emotions to be free from environmental and cultural influences, thus being free from social limits. (9) It makes a 'bad' actor better. (10) It gives the actor freedom to use any method and style. (11) It frees the actor from the director/dictator, because the actor himself controls his own doing in a practical way, without the interference of the 'pocket book psychology'.

We continue our research and the deeper we understand how the emotions work, the more we understand the world of oriental theaters and rituals.

I consider the work of Bloch *et al.* a very rich and valuable contribution to the theater.

**Horacio Muñoz Orellana**

*Teater Klanen, Copenhagen, Denmark*