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The Timeless Tools of Time: Circus Performances Revisited

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The Timeless Tools of Time: Circus Performances Revisited

working paper *

> «Physical, biological, and social levels are co-patterned in 'the text' which consist of the trajectory between stable levels (states of play). Individuals are organising centres for that state of play, which itself consists of those individuals as nodes of a supra-individual organisation. 'The text' to date is always the trajectory by which it got to where it is. The 'time trick' enables planning, construction of the physical world as a mask and support for the social model, and the subsequent immersion of our species in their constructed worlds . . .
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> From the single cell studies viewpoint, we see the dominant mode of orientation of objects in the cat's brain written in as anatomical structure. It is certain that it is the brain that teaches the eye to see, and that what it sees is then written into the brain. It is as if the brain 'sucks up' the world at a certain age, and then is for ever more, an organising centre of that world. The changes that occur at puberty are probably for the brain the point at which the high cultural concepts become neurologically fixed so that thereafter, they ARE the individual's motivation structure. But the chief of the neurological capabilities of the human brain, probably represented in the frontal and temporal lobes, is this take-over of time, such that it is the plans themselves, being manifested in other people and the environment, which segment time».
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> Michael Mair, *The Melody of the Text* [1].

* This paper was read at a conference on «Cultural Frames and Reflections: Ritual, Drama and Spectacle», organized by the Wenner - Gren Foundation for Anthropological Research (Burg-Wartenstein, August 27 - September 5, 1977).

In earlier papers on the circus [2] I have attempted to construct a semiotic model capable of accounting for both the strings of all observable components of the acts and the structure holding those elements together. Central to this attempt is the concept of a multi-media message construed as a «text», i.e., a finite set of elements having the status of signs and being logically interconnected so as to form an intelligible whole, relevant to some aspects of their contextual culture. The level of observation on which this analysis is elaborated remains close to the experience of an attentive spectator immersed in the performance situation. The only difference between such an involvement in the spontaneous understanding of circus spectacles and the kind of semiotic approach I have developed, is that in the latter some time is allotted to reconsidering what has taken place in the ring in order to sort out and classify whatever identifiable «objects» were used, and to become aware of which aspects of the «objects» were actualized by combining with each other as well as which transformations they underwent in the process. The formulation of a descriptive theory of the circus was made possible by *ad hoc* borrowings from various linguistic, cybernetic, and anthropological models, inasmuch as the description of a cultural phenomenon in a terminology that is more general than the one used by the participants in this phenomenon, enables one to grasp it as a sub-set of a more comprehensive whole of patterned social behaviours and to articulate its specificity.

However productive this model may be in providing a methodology for observation and explanation of such events as circus performances, two important aspects have so far been overlooked, or at least taken for granted: First, the fact that the simplest circus act must be ultimately described as a brain performing for another brain, i.e., it involves basic cognitive operations; second, that this performance involves time in a particular capacity or function. In dealing with those two closely connected aspects this paper will attempt to achieve further progress in the description and elucidation of circus acts and in the understanding of what constitutes their specific cross-cultural significance. I will rely on the concepts of «plans», «tools» and «actions», and focus on developmental cognition rather than structural calculus. This does not mean that the validity of my former approach is denied. With such a complex «text» as a circus performance, several levels of interpretation are possible. The way in which these various levels are interconnected is not as yet obvious, but it should be pointed out that to set forth an integrated system which would account for the totality of the possible interpretations of this particular object would amount to producing a theory of culture, a goal which is still only a challenging task in the

present state of the art. In addition, it might be an illusion to assume the possibility of producing an unified, all-encompassing, and consistent theory of circus performances, because it is not impossible that the various responses of the local brain systems (limbic system, frontal lobes, right and left temporal regions, etc.) to a spectacle as engrossing as the circus are somewhat anarchical. What at least is certain is that, given the intensity of the responses of the spectators, a very high number of diversified cerebral stimulations and operations must be at work during a circus performance. This paper will concern itself with only a few of these operations, in a programmatic manner, and will attempt to delineate the circus phenomenon with respect to the two poles of cultural specificity and pan-human relevance.

1. A brain to brain affair

An acrobat's or an animal trainer's achievements are not primarily feats of physical strength and moral endurance, but cerebral performances involving acute perceptions, selective memory, adaptative routines, efficient processing of information, accurate assessments of situations, and felicitous decision making, to list only a few of the many operations which have to be inferred if one wants to account for those individuals' eventual survival of the tests with which they are confronted. The features listed above apply to the day-to-day completion of the circus acts in which these artists specialize, but we must not overlook the fact that they perform according to a pre-conceived «score» (in the musical sense) in view of which they have trained themselves and others (humans or animals)). The successful negotiation of a circus act depends on both the blueprint of this act stored in the artist's memory and the adaptivity of his/her skill during the application of the blueprint to real, ever-changing, conditions, i.e., variables involving climate and temperature, material and social atmosphere, physical and emotional stress, human and equipment failures, and so on. Circus acts as conceptions and implementations of «programmes» display events of high order complexity that only brains of potentially similar capacity can follow and understand. The nature of this «understanding» deserves close scrutiny, because it is far from obvious that what even an articulate spectator is able to report verbally about his/her experience is what is the most cognitively relevant in processing all the information comprising this experience. A feeling of saturation is quite common when one has just left a circus, and it takes some time until some form of selective reporting can be made. It is also a common experience to discover

upon a second viewing of a show that many details had been overlooked during the first one. A reason for this is undoubtedly the fact that, in terms of communication theory, the channels conveying the information are practically saturated and noiseless; with respect to the usual conditions in which we are accustomed to selecting only relevant information from among a noisy flow, in the circus we are confronted with a much higher percentage of relevant information. In addition to this, the sophistication of the text structure and the cultural pertinence of the operations performed (in brief the purely symbolic nature of the experience) trigger so many decoding operations at such a fast rhythm that some are bound to misfire. All this implies that intellectual and cognitive maturation as well as sufficient acculturation are prerequisites for the understanding of circus performances. The supposedly essential link between children and circuses, although motivated, is nevertheless a common place among circus artists to complain about afternoon audiences that are primarily made up of children, because children react mostly indiscriminately, don't understand and therefore don't appreciate the technical complexity and aesthetic value of their acts. In fact, children can hardly be blamed for their lack of connoisseurship.

As Piaget has demonstrated, all fundamental cognitive functions develop serially in time; crucial concepts and operations involved in the child's progressive construction of reality are necessary for the complete understanding of circus acts. This understanding requires indeed not only that the spatial and temporal fields as well as the elaboration of groups of displacement be acquired, but also the concept of causality be fully developed and a universe be constructed. A textual and cultural competence is also required if the structure of the act and the cross-references it usually comprises are to be followed [3]. It is symptomatic that for many children the circus is associated with some of its elements which are not essential to the acts performed, such as remarkable animals, the gross behaviour of the clowns or even the smell and taste of popcorn and the possession of a balloon! There is no doubt that an assessment such as S. Tarachow's «Circuses and clowns» [4] (which, incidentally, I have criticized elsewhere as a misrepresentation of the art of clowing) [5] is indeed what the children see and remember: «(The clown) . . . engages in endless bickering or problems with another clown . . . One might endlessly break dishes, another eat enormous amounts of pie . . .».

Regular adolescent and adult circus goers experience a strong participatory feeling, a phenomenon that cannot be accounted for by mystical explanations even though they themselves refer to such vague terms

as the spirit of the circus or the charisma of the artists. Obviously there is, in this case, a form of interaction whose factors can be analyzed. By programmatically shifting the focus of this paper from the «objective components of the acts», or the «factors involved in a communication process», to the cognitive operations that take place in the cerebral systems of both performer (human or animal) and spectator, I am attempting to correct an approach which could lead to an illusory atomistic conception. Once every observable element of a circus act has been isolated and categorised, will the same circus act be re-created by putting the elements back together? This is eminently doubtful, because the cognitive structures, without which the art of the circus is meaningless, would be absent. Two aspects will now be tentatively discussed in order to make our point more explicit.

First it seems that all circus acts are primarily made up of successive situations, i.e., a combination of factors relevant to an action or to a reaction. A situation is not formed by the sum total of the accessories but by their respective positions in relation to an observational and decision making centre. The assessments and representations of these successive situations and their segmentation from both the point of view of the artist(s) and the spectator(s) are cognitive processes that at the very least overlap significantly. Situations are still more complex when they involve trained animals who are also, during the act, negotiating successive situations whose representations and assessments must overlap with their trainer's, an aspect which has been particularly well studied by H. Hediger [6]. Animals do not respond to individual stimuli, but process situations more or less flexibly in the light of past experience. To follow trained animal acts attentively implies that the spectator is able to represent to himself the situations as they are represented both from the point of view of the trainer and the animal (s); for a naive spectator the interpretations of situations are generally biased by the verbal comments (e.g., «Man-eating tigers»), or gestural explanation (e.g., acting out assumed moods) provided by the performers. Given that to live means to constantly represent and assess situations with respect to plans and survival, these remarks should make the biological relevance of circus performances obvious.

The second aspect, which also has to do with the audience's feeling of participation, is the timing or rhythm of action. The performers set indeed a certain visual rhythm, underlined by the accompanying music, that forcefully overcomes the spectators' own time, tuning them in on the same sensorimotor wave length so to speak. The performance develops, alternating slow and fast rhythms, but maintaining a characte-

ristic tempo. This phenomenon, which is easily observable if one turns one's attention toward the audience of a circus spectacle, is conditioned by the same neuroplasticity which explains in part the charismatic power of leaders and the interactional dominance of those who, in every day experience, hold the floor, make the conversation, or steal the show. The circus writer who has most insightfully dealt with those factors is I. K. Pond, who analyzed in *Big Top Rhythms* the whole gamut of the circus act from the perspective of muscle control, timing and rhythm [7]. This is a crucial factor in distinguishing «good» from «bad» circus acts; the spectator's appreciation should indeed not be neglected as a «subjective» aspect, if only because the totality of the circus art depends on the readiness of an audience to pay for «a seat at the circus»; a poor show means eventually no audience whatsoever. Most criticisms of circus acts I heard from circus artists — who more often than not are also spectators — were based on the poor quality of the timing. One of my most lucid informants, the clown Charlie Cairoli, mentioned once a troupe of brilliant acrobats who, after years of success, were puzzled by the progressively milder reactions of audiences to their act; he showed them, by a video recording, that although they were performing the same feats as before, they had lost, through mindless routine, their initially excellent timing [8]. This is not only true of acrobatics; Charlie Cairoli, in his own clown act, has to provide one of his partners with clues as to exactly when to start doing the various parts for which he is responsible because this man lacks the sense of proper timing. This aspect of the performance is all the more relevant to a scientific study of the circus as it involves a factor that recent research in social interaction — such as M. Mair's promising hypotheses in this domain — tends to consider essential [9]. A circus act does not consist only of what is done in it but also — and in a prominent way — of how it is done with respect to time. However, as it will be suggested in the next section, this is not the only way in which time is involved in a circus act.

2. Another kind of time

It is a well-attested phenomenon that the ways in which humans conceive and experience time are conditioned not only by a lengthy psychological maturation, but also by cultural inculcation [10]. Developmental psychologists have pointed out that there is no such thing as an intuitive, immediate, pure perception of the flow of time but that, as for spatial organization, sequential steps are necessary towards the construction of personal and socio-cultural time. As put by G. Miller and P. N.

Johnson-Laird: «The growth of a child's grasp of temporal relations and concept requires a number of years as Piaget has shown, and the final articulated system is likely to depend on the technology of the culture in which the child is raised» [11] or in M. Mair's words: «The perception of temporality itself is built into the structure (cultural) through which the individual awareness makes its path. We have so thoroughly taken over time that we can have no other concept of it than that of the cultural universe within which we are immersed».

Developmental psychologists have also convincingly demonstrated that such concepts of time are dependent on the perception of movement, hence of spatial organization [12]. The child's «construction of reality» which slowly emerges from his progressive conceptualization of space, movement, speed, etc., comprises a time dimension that is sufficiently polymorphous for justifying cross-cultural investigations in a chronemic perspective (i.e., the differential *use* of time according to cultures and sub-cultures) [13] as well as from the point of view of cognition (i.e., the various ways in which time is represented and conceived) [14]. In our own culture, we alternatively rely on two opposite representations: a linear, irreversible time and, as most cultures do, a circular, cyclic time. The former is explicit in mathematical thinking and mostly implicit in the serial representations that underly the tense system of the verbs [15]; the latter becomes obvious if we consider our segmentation in weeks, seasons, religious and national celebrations or if we study cosmologies based on cyclical changes [16]. But between or beside those two concepts of time, another kind of the representation plays a prominent function in our «reality»: *the time of actions*. As we move closer to intimate experience, fundamental aspects of our cognitive structures tend to become less apparent; we are indeed confronted with the passive resistance of tacit knowledge. Nevertheless there are good reasons to assume that the particular concept of time that is necessary to account for the concept of action is no less «constructed» than the other two.

This was clearly evidenced by Piaget's experiments who related the concept of action to the conceptualisation of time:

> «To the extent, therefore, that action is made the subject of reflection and not merely of intuition, i.e. that reflective analysis replaces pure introspection, the results of the action, its rapidity, and the various events which constitute it, become fused into a coherent framework, in which the order of succession and the colligation of durations are interrelated in precisely the same way as they are in the case of physical time. More precisely, the child co-ordinates his own time by

fitting his actions into physical time, just as he co-ordinates physical time by relying on his memory of, and active contribution to, changes in the environment of which he forms an organic part.

In brief, the development of psychological time is both the internalized response to, and the explanation of, intuitive physical time — the internalized response because it involves the same intuitions and later the same operations, and the explanation because it remains intuitive only as long as the subject remains incapable of dissociating his own actions from their external results» [17].

The concept of action is so central to our structuring of «reality» that it organizes most of the changes according to its principles, from the conception of the universe as a «creation» to the supposition of secret intentions or plots as an explanation for minute disturbances in our everyday lives. The kind of time construct that underlies the concept of action is indeed indissociable from the concepts of «plan» and, consequently, of «tool».

The importance of those concepts for the relevant segmentation of body movements and behaviour [18] was effectively pointed out by Mills, Galanter and Pribram in *Plans and the Structure of Behavior*:

> «The problem is to describe how actions are controlled by an organism's internal representation of its universe. If we consider what these actions are in the normal, freely ranging animal, we must be struck by the extent to which they are organized into patterns. Most psychologists maintain that these action patterns are punctuated by goals and subgoals, but that does not concern us for the moment. We wish to call attention to the fact that the organization does exist — configuration is just as important a property of behavior as it is of perception. The configuration of behavior, however, tends to be predominantly temporal — it is the *sequence* of motions that flows onward so smoothly as the creature runs, swims, flies, talks, or whatever. What we must provide, therefore, is some way to map the cognitive representation into the appropriate *pattern* of activity. But how are we to analyze this flowing pattern of action into manageable parts?» [19].

One satisfactory answer is to identify plans, i.e., hierarchical processes

in the organism «that can control the order in which a sequence of operations is to be performed» [20]. The relationship of «plans» to time in the construction of human reality is outlined as follows by Mair:

> «In both visual and auditory modes we have a process in time, scanning, which is segmented by plans which are timeless. Whether that which is timeless is built into the structure of scanned objects, or is the result of structuring of objects (action), in which case the plan must have in some sense been in the brain in the first place, or is there in memory as an accretion of the time form of an utterance, or as the plan by which an utterance was structured — whatever manifestation requires plan and scanning. Human reality appears to consist of the stable states of achieved or perceived plans, and the paths by which they are achieved or perceived».

It is assumed in this paper that, if indeed the concept of action results from the timely confluence of psychological maturation and social acculturation (or cultural socialisation), it is necessary that at one given point the child grasp a model of «action» in relation to time, plan and tool — and that the instruments that engineer such a representation can only be «tools». No doubt that «toys» play an important part in this respect. But there is an experience that very few children escape: Everybody remembers having been taken, willy-nilly, to the circus. Is it not an interesting fact that visits to the circus are organized by families and schools, and are therefore to be considered a part of cultural transmission? It is significant that the better circus companies possess an Educational Department enjoying general credibility among other pedagogical institutions. In this respect it is at the very least amusing to note that the cover of the Ballantine edition of Piaget's *The Construction of Reality in the Child* [21] shows, as a superimposition on a young boy's head, some toys among which is an acrobatic clown engaged in a balancing act (specifically: riding a monocycle on a wire). Nevertheless this aspect of educative transmission must not lead us to overlook the fact that simultaneously the circus has a character of marginality, an aura of mystery and danger (popular films, literature, comics usually play on this aspect), a phenomenon possibly consistent with its liminality.

I would like to suggest that what remains in the child's memory (possibly what has been named by the adult: «look! here is a clown, here is an elephant» and so on) is not what has actually been the most cognitively decisive in his experience. As I will try to demonstrate in the next section, the performances of acrobats and trainers are «pure actions»,

«passing of tests», «achievements of goals», in brief «implementation of plans». Their instruments, i.e., the setting, the accessories, the artefacts through which they accomplish their feats of strength, balance, or timing are indeed the tools which produce nothing other than the particular kind of time implied in the concept of action. Undoubtedly a child of three or four lacks the maturation that is necessary for understanding a circus act, but for a child of six or more a circus act can only have a formative value with respect to the conceptualization of actions and its subsequent result in constructing the substructures of later speech [22].

3. The timeless tools of time

An acrobat's apparatus is always custom-made according to the instructions given by the person who has conceived the act. It can be bought second hand in the case of traditional acts, but most of the time it will have to be adjusted to the size and weight of the participant(s) in the act. Its construction is governed by the rule of parsimony. All its parts are strictly functional and the decoration is reduced to a minimum so that it does not conflict with the apparatus's essential purposes. As an instrument designed in view of a category of patterned movement and whose proportions are determined by those of its user(s), an acrobat's apparatus belongs to the class of objects that qualifies as *tools*, i.e., it cannot be understood independently from the plan whose implementation it makes possible. Its only difference from ordinary tools is that it is not aimed at transforming a portion of space but a portion of time. Indeed, it puts together the conditions for the performance of an action or a set of actions, by creating a topological configuration with respect to which (a set of) goals will be achieved. It constructs a universe for the actions which it makes possible by determining their forms, and conversely it comes to full existence as a universe through the action(s) which — so to speak — bring(s) it to life. Defined as conditions for the implementation of a plan, it necessarily plays a part in the representation of the time of action, i.e., a subset of instants structured as a finite sequence of «now», «then» and «next» and forming a logical cluster of temporal values (the performing of a task) embedded in linear time, a phenomenon which amounts to a suspension of linear time (a phenomenon effectively labelled the «time trick» by M. Mair) or rather, as we have suggested earlier, the construction of a time different from both linear and cyclic representations of time.

Inasmuch as the acrobat's apparatus is instrumental in the performance - representation of «pure» action and consequently of the kind of time it implies, it can be said that such an apparatus is a tool aimed at a transformation of the representation of time into the «timeless time of action» (a view encapsulated in the title of this paper for lack of a better expression). The conceptual unity formed by a tool and its tasks with the consequent involvement of memory and feedforward, is a clearcut symbol of what cognitive psychologists refer to as «plans», a concept introduced in the preceding section. In Leroi-Gourhan's words: «La synergie opératoire de l'outil et du geste suppose l'existence d'une mémoire dans laquelle s'inscrit le programme du comportement» [23]. The topological structures of an acrobat's apparatus with all its parts designed for making possible and efficient such basic functions as prehension, rotation, translation, and balance, are somewhat similar to musical instruments inasmuch as they are conceived in view of a gamut of actions within a certain domain of the sensorimotor universe. These apparatuses, by themselves atemporal tridimensional constructs, are sorts of stable «incomplete images of achievements». Their importance and meaning can be assessed only in view of perspectives such as the one expressed by K. Pribram with respect to actions in general:

> «The results of these experiments and observations showed that the motor regions of the cortex were critically involved in the control of neither individual muscles nor specific movements. Rather, the motor cortex seemed to play some higher order role in directing action — action defined not in terms of muscles but of achievement of an external representation of a psychological set or Plan» [24]. «The ready question of how movement becomes trasformed into action is that a sort of Imaginary process must occur in the motor cortex and that the Image is a momentary Image-of-Achievement which contains all input and outcome information necessary to the next step of that achievement» [25].

As they are performed in relation to an environment exclusively made for them, such actions are almost as clear as a logical formula because each component is isolated then recombined in a sequence perfectly disentangled from the confusing network of the indefinite components of «reality». In addition, the actions displayed in the circus ring are totally explicit; there is no ellipsis whatsoever, contrary to actions represented in theatrical plays or in narratives in which time gaps and retrospections are usual. Indeed, although the concept of action is central to our worldview, any given situation implying an action contains

some ambiguous features regarding the degree of intention, freedom, vision of the outcome, assessment of the value of the result, to the extent that most «actions» are only *a posteriori* interpretations of events which were actually shaped to a certain extent by circumstances, pressure, and chance. Given that any outcome of an action is not in general an isolated, abstracted «object», but combines with other factors in a way that is hardly foreseeable, any decision implies a certain amount of gambling, if only the assumption that the state of the world will remain constant or that the rules of the game will remain valid.

The micro-universe constructed in the circus ring in view of a sequence of typical actions involving a sub-set of human capacities (jumping, juggling, lifting, etc.) represents a finite set of conditions which are given as constant by hypothesis. It could even be said metaphorically, that a circus act has an axiomatic character and that the apparatuses and accessories are the stable symbols of this human algebra. This seems all the more likely since, as I have contended in previous works, natural objects (humans, animals, artifacts) undergo a process of iconization in the circus system, i.e., that the features of those objects which are relevant to the text in which they operate are redundantly enhanced and whatever could interfere as noise with those qualities is suppressed as much as possible. It appears that this is not only true of the «object», i.e., the items comprising the «text» of an act, but it applies also to the actions performed, as it has been suggested above.

All the components of our concepts of Action (intention, freedom, plan, completion, achievement . . .) are enacted in ideal communication conditions. In a way, the circus operates similarly to the logicians of action by displaying sequences of well-defined symbols with very little room, if any, left for ambiguousness. This is one of the reasons why current ways of filming or taping circus performances for TV purposes are so much at odds with the very system of the circus which requires that a complete act be seen from only one special point of view - whatever it is. Note that the physical layout of circuses insures that from any seat a spectator can perceive the totality of the movements performed and the setting within which they are performed. Indeed the symbols and their matrix have to be constant in their appearance and mutual relationships if the «formula» is to be visually and intellectually grasped. If the camera constantly changes its point of view, its distance and its focus, the sense of the logical totality of the sequence of movements is lost and the brain of the spectator is distracted by having to process multiple fragments to the extent that the advantage of the semiotic economy obtained through the iconization is lost.

If these remarks are correct, it becomes clear that the circus provides ideal means for the cultural transmission — and reinforcement — of a normative concept that is crucial to the permanence of a worldview and its subsequent way of life. One could even wonder where else than in the circus such an iconized representation of pure «action» and consequently the generation of its correlative time, is performed so effectively. Certainly not in sport as a spectacle or a practice, because not only the concept of «action» must have been mastered in both cases as a prerequisite, but also because the whole system of sport is made far more complex by the introduction of the game and competition factors. Certainly not by tales either because, as mentioned earlier, the conceptualization of action is a cognitive condition for the understanding of narratives. The adults' enjoyment of a circus act may be rooted in the unique possibility of contemplating ideal actions, similar to those described in treatises on ethics, i.e., comprising intention, free will, meaningful purposiveness, skill adjusted to well-defined and challenging goals, and eventual success, in brief the cornerstone of our humanistic ideology!

4. Clowns at work: the melodic structure of social drama

At least some clown performances can also be described as iconic representation of *actions*, but, most of the time in the particular form of social inter-*actions*. A very popular speciality known as «musical clowns» seems to possess the characteristic of using musical instruments and tunes in a metaphorical way for expressing conflictual situations and dramatized interactions as well as other operations typical of the art of clowning. The process consists in translating into the musical code — or more generally the acoustic code — the most relevant relationships comprising a given system. The claim that such an encoding is metaphorical relies on the assumption that the choice of the acoustic medium is motivated and not arbitrary. This latter point should be clarified before turning to some precise examples.

A current trend in linguistic research consists indeed in shifting the focus of inquiry from abstract syntactic structures to intonative structures, thus integrating in the «linguistic object» aspects of verbal communication which had been — and still are — expelled into the liminal field of paralinguistics. It seems more and more obvious that melodic structures should not be viewed as dispensable accompaniments of linguistic performances but must be assessed in terms of linguistic competence. Concurring with this approach, recent research in the

structure of patterned social interactions tends to show that the organization of interactive processes is governed by melodic patterns encompassing the totality of the media involved in such processes. In his seminal paper entitled «The Melody of the Text», already quoted earlier, Mair suggests that a melodic preeminence integrates all other dimensions: «It is perhaps the precision of the integration of speech and movement within and between interactants that might give the game away . . . since they constitute a co-patterning rather than something added to each other in any retrospective sense, then we merely complicated our prospective cerebral organization by chopping up what happens into functions. E.g., expression, communication, illustration, management of the environment, etc. In describing the movement of spontaneous, rapport-full conversation, the common attitude words are curiously inadequate. This is a problem with faces too. One automatically looks to poetry to be adequate to the experience. Something about the way the words are arranged being more suitable . . . But that is precisely what is happening in the subjects we are studying — «the melody of the text». Given that the «text» is in integrating function, the one who controls the melody, as Mair likes to put it, controls also the text. Note that the concept of melody has been applied to movements by A. R. Luria who uses such expressions as «kinetic melodies» and «kinaesthetic melody» [26] (p. 253).

Therefore, if social interactions are patterned by melodic structures and if conflictual processes can be described adequately as interferences of competitive melodies, then musical clowns deal with the very fundamentals of the dynamic processes which make up everyday life on the level of face to face interactions.

Two clown acts will now be analyzed in view of these remarks and the general approach illustrated by this paper. The first example — the FORNASARI clown act [27] — follows a pattern often observed in musical clown acts, according to which the performance of a melody is interrupted again and again by a troublesome clown who eventually makes his point and joins the group. The Fornasari's interpretation of this scenario is very effective and emphasizes some aspects that are particularly significant from the point of view of the hypothesis outlined above.

A whiteface clown, elegantly dressed, introduces himself and his brother — and announces that they will play music for the audience. He starts playing a tune (A) on his trumpet and his brother accompanies him on the drums. His interpretation of tune A is personalized, i.e., he introduces variations of his own. As he plays, another clown — a messy and grotesque character — enters the ring without being noticed by the

two musicians; he carries a music-stand and a trumpet, puts his music-stand beside the other clowns and starts playing the trumpet, joining the tune that is being performed. When the whiteface clown realizes that someone else is playing beside him, he stops playing, turns toward the newcomer, and pokes his arm to signal to him he has to stop playing — then he sends him away: «You cannot play music here, you have to go outside — Luigi (his brother), let us continue!» — So they do as the interrupter leaves the ring for a short while, after which he returns but, this time, with two trumpets on which he plays simultaneously. The whiteface clown confiscates the two trumpets and tells him that he cannot have them back. «If you want to play music, you have to go to play outside». Then he confiscates his hat. There follows an argument during which seven hats are successively confiscated because, every time, the clown produces a new one that was hidden in his pocket or in his trousers. Eventually he leaves the ring shouting that he will go and buy another one. The two musicians resume their performance (tune A).

The other clown returns with a new trumpet and interrupts their playing by performing a different tune (B); he concludes by performing variations on the former tune (A). The whiteface clown pulls a gun and fires at his foot. One of his oversized shoes jumps in the air revealing an enormous foot on which a red bump starts to grow (in fact a balloon that he inflates by a special device). He leaves the ring crying as gushes of water come from his eyes. Near the exit, he mimes the movement of swimming. The two musicians then play a new tune (C) soon interrupted by the old troublemaker who arrives with a trombone and interferes aggressively with their performing, aiming at them the slide of his instrument (tune D). The whiteface clown tells him again that he cannot play here and hits his hands with a soft stick or a bladder several times until the victim deceives him by withdrawing his hand in time to avoid the stick, then he retires. The concert resumes (tune C). New interruption with a saxophone (tune D) and, as he is stopped, he takes off his jacket, and fires several gun shots from a revolver which is fixed to his bottom.

The two musicians are scared to death and temporarily leave the ring, returning only when the clown has walked off the ring, imitating the gait of a gunman of western films. The concert resumes (tune E). The clown comes back with an oversized saxophone, whistles to signal his presence and shows his big instrument, he is given permission to perform and tries to play with little effect. He takes from inside it a very small saxophone which he introduces as «a baby saxophone» on which, after having been given permission, he plays the same tune as in the beginning (A), but in a particularly brilliant manner. He stops playing because he

feels a bite on his leg, then performs some antics, pretending that someone in the audience is watching his bare legs when he pulls up his trousers to look for the cause of his discomfort. Eventually he finds a mosquito, shoots it with a gun, and makes big steps towards the mosquito to finish it. The drummer accompanies his steps, but at the third one the drummer is tricked into playing the drums without there being any steps — and the clown makes the last noise himself by firing his gun.

Then he goes to finish his tune (A) on the small saxophone but soon after, the sheet which was on the music stand explodes reducing the musical score to pieces. At the same time he pulls a white flag from his pocket. Then he is asked by the whiteface clown «what are you going to do now?» and, as an answer, he gives the signal for a march as three other musicians carrying various kinds of drums enter the ring. The old clown acts as a band director, but a last musician arrives with a very large tuba (bass horn) and starts interfering with the tune performed (tune F). This causes an argument with the clown, but the newcomer soon joins the group which makes its way to the exit while playing a last march (tune G) under the direction of the old clown. The texture of this act is very rich but at least two aspects can be distinguished: First, a main sequence involving a conflict between two musical performers; second a series of conflictual events imbedded in the main sequence (the hats, the shooting of guns, the stick and the bite); note that those events which do not involve musical performance are nevertheless consistent with the main sequence both syntactically and semantically. I will not deal with them in detail in this paper. The reason for their methodological neglect is that comparison with other acts of the same type shows that the main sequence follows a general pattern whereas those imbedded events can be considered as free forms, not only observable in other sequences but also being commonly substituted for other events. In addition, whenever clowns performing this act in a programme are asked to make it shorter, they drop those episodes. Conversely they can insert a few more if they are requested to make their act last longer.

If we focus on the main sequence and eliminate its redundant episodes, we can easily identify the following functional phases:

1. an authoritative character plays a melody (tune A).
2. an outsider interferes and attempts to join the performance of the melody (tune A) on his own terms. He is brutally rejected.
3. the same scene repeats itself several times with the outsider using various instruments.

4. the outsider interferes with a more aggressive instrument and plays another melody (tune B). He is again rejected.

5. the authoritative character plays another melody (tune C).

6. the outsider returns — showing more authority — and eventually plays better than his colleague the first melody (tune A) and wins his approval and admiration.

7. the outsider acts authoritatively, takes over the leading part and organizes the whole group which plays a march under his direction (tune G).

Two imbedded events are narrowly connected to this sequence: First, within (6) the piece of paper containing the score of the melody (presumably tune A) explodes and is reduced to pieces.

Second, within (7),another outsider repeats tentatively the behaviour of the first outsider once the latter has asserted his control of the group, but this last interference is reduced to a minimum as the tuba player soon joins the group for the final march.

In other words this act displays a conflict regarding the control of *a* melody, amounting to aiming at controlling *the* melody. This clown scenario enacts indeed a progressive taking over of the function of band leader, during which three phases can be observed: (1) several unsuccessful attempts; (2) a breaking point event in which the outsider takes over the melody and performs it more effectively. Note that this event is symbolically emphasized by the violent and sonorous destruction of the musical score. (3) The winner asserts his victory and becomes the bandleader. At this point he is himself challenged by another outsider but integrates him successfully in the group.

If, as I believe, Mair insightfully pointed to a fundamental dimension of social interaction by focussing on the melody and emphasizing the fact that the most basic processes in human business are invisible to those who are immersed in them — then a clown act as the one described above should indeed «speak» to our brains inasmuch as these brains must be subtle processors and identifiers of such conflictual melodic patterns that are so relevant to our (social) survival. The way this phenomenon is captured (abstracted, iconized, redundantly expressed) in circus clown acts is similar to the treatment of actions which we have observed in other types of circus acts. Note also that the time factor is involved exactly in the same capacity but applies to social actions (taking over the control of a group) i.e., a special case of the more general category of implementing a plan as it involves two mutually exclusive plans, and

that the initially dominant one is overcome by the challenging one.

A short clown gag, which incidentally was observed in the same programme as above, evidenced neatly the closeness of the two processes: implementing a plan and taking over the melody.

Rudy Dockey is introduced as a great violinist, and starts by trying several positions with his violin and bow. The plan is clearly stated: he will perform the «carnival of Venice», everybody keeps silent and listens (this is the most striking evidence that the melody is being taken over). As he has some difficulty in finding the right position for playing, he ends up holding the violin on his back and plays the tune in a contorsionist's manner. The plan has been implemented in an original manner. But the Master of Ceremonies who had introduced him shows signs of disapproval and takes the instrument away from his hands, a drastic way of taking over the melody from him. Then Rudy Dockey finds in his pockets a balloon that he blows to a fairly large size and manages to perform the same tune — with a very similar sound quality — by expelling the air from the balloon through a little pipe. Therefore he has demonstrated his ability to implement his initial plans through an alternative strategy and at the same time he has taken over the melody again as the orchestra starts accompanying him. Finally he leaves the ring as a hero.

5. Concluding remarks

Obviously the analytical approach outlined in this paper does not exhaust all the symbolic riches provided by circus spectacles. No mention has been made, for instance, of the complex semiotic operations through which some rules of the contextual culture are expressed, combined, and transformed in the various acts comprising a circus programme. In the two clown scenarios which were considered in the last section the nature and connotations of the melodies that were used by the performers, as well as the details of their costumes, postures, dialogues, etc., were not taken into consideration. I have dealt at length with those problems in other articles [28]. However the aspects of circus spectacles which I have attempted to analyze in this paper are crucial with respect to the cognitive foundations that make circus spectacles, as well as other cultural phenomena, possible. More specifically, I have suggested that no other form of spectacle or ritual seems to be more apt than the circus to contribute decisive experiences to the cognitive development of the child, although only a mature acculturated adult can fully enjoy

its spectacles. A circus act is a prototype of social behaviour providing a clear demonstration of what is (or should be?) an action, thus generating a specific concept of time in relation to the concept of tools. The demonstration is all the more effective since, through the iconization of elements and situation, the action itself — and consequently the concept of time it implies — are iconized. Then the circus artist's tools, those impressive apparatuses made of tubes, poles, rings, ropes, wires, etc., or those sets of objects (stools, barrels, balls, hoops, etc.) are indeed the signs of atemporal structures, denotating normative models of action, to which one could perhaps apply V. Turner's remark: «Temporal structure until at rest and therefore atemporal, is always tentative; there are always alternative goals and alternative means of attaining them. Since its foci are goals, psychological factors, such as volition, motivation, span of attention, level of aspiration, and so on, are important in its analysis; constrastingly, in atemporal structures these are unimportant, for such structures reveal themselves as already exhausted, achieved, or alternatively as axioms, self-evident cognitive or normative frames to which action is subsequent and subordinate» [25].

Paul Bouissac

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NOTES

(1) M. Mair, *The Melody of the Text*, unpublished manuscript, personal communication (1977). University of London, Institute of Education.

(2) These papers, written and published between 1969 and 1974 have been reworked as chapters of my book *Circus and Culture*, Indiana University Press, Bloomington, 1976.

(3) For instance a Wagnerian melody may serve first as an introduction to an acrobatic act, thus setting a mood of seriousness and tragic grandeur, then a few acts later the same melody will be alluded to by a clown playing trumpet while another clown performs some antics, with a comical effect as a result of the incongruity of the accompaniment. Another example could be the graceful imitations by acrobats of the famous postures of classical sculptures such as the discus-thrower or running Mercury. Numerous ethnic, folkloric, and literary allusions are commonly found in the performers' costumes. For a thorough analysis of the structures of two complex acts, see my paper «Circus Performances as Texts: a Matter of Poetic Competence», *Poetics*, vol. 5, no. 2, June 1976 (pp. 101-118).

(4) S. Tarachow, «Circuses and Clowns», *Psychoanalysis and the Social Sciences*, vol. 3, pp. 171-185.

(5) P. Bouissac, «Clown Performances as Metasemiotic Texts», *Language Sciences*, No. 19, Feb. 1972, pp. 1-7.

(6) H. Hediger, «Zirkus-Dressuren und Tierpsychologie», *Revue Suisse de Zoologie*, 1935, vol. 42, pp. 389-394; *Studies of the Psychology and Behavior of Captive Animals in Zoos and Circuses*, transl. by G. Sircom, London Butterworth's, Scientific Publication, 1955; «Verstehens- und Verständigungsmöglichkeiten zwischen Mensch und Tier», *Schweizerische Zeitschrift für Psychologie und ihre Anwendungen*, 1967, vol. 26, pp. 234-255.

(7) I. K. Pond, *Big Top Rhythms*, Willet Clark, Chicago-New York, 1937.

(8) Charlie Cairoli, personal communication, Blackpool, August 1974.

(9) Dr. M. Mair's research is currently under way at the University of London's Institute of Education.

(10) J. Piaget, *The Construction of Reality in the Child*, transl. by M. Cook, Ballantine Books, New York, 1971 (see in particular pp. 362-63).

(11) G. A. Miller and P. N. Johnson-Laird, *Language and Perception*, The Belknap Press of Harvard University Press, Cambridge 1976 (see in particular pp. 76 seq.)

(12) J. Piaget, *The Child's Conception of Time*, transl. by A. J. Pomerans, Ballantine Books, New York, 1971.

(13) E. T. Hall, *The Hidden Dimension*, Doubleday, Garden City, 1966.

(14) B. B. Lloyd, *Perception and Cognition, a Cross-Cultural Perspective*, Penguin Books, 1972 (see pp. 76-84).

(15) G.A. Miller and P.N. Johnson-Laird, *Language and Perception, op. cit.*, (p. 410 seq.).

(16) M. Eliade, *Traité d'histoire des religions*, Payot, Paris, 1959.

(17) J. Piaget, *The Child's Conception of Time, op. cit.* (pp. 262-63).

(18) M. de Mey, «The Structure of Behaviour and Action», *Communication and Cognition*, vol. 9, No. 3/4, 1976.

(19) G.A. Miller, E. Galanter and K. Pribram, *Plans and the Structure of Behavior*, Holt, Rinehart and Winston, New York, 1960.

(20) *Ibid.*, p. 16.

(21) See note (10).

(22) «As for the actions which form thought, these interiorized actions, one must learn to execute them materially; they first require a whole system of effective and material actions. To think, for example, is to classify, to arrange, to place in correspondence, to collect, to dissociate, etc. But all these operations must be carried out materially in actions, in order to be capable afterward of being constructed in thought. That is why there is such a long sensorimotor period before speech and why speech is late as compared to the development. *A long practice of pure action is needed to construct the substructure of later speech*». (emphasis mine). J. Piaget, *The Child and Reality*, transl. by A. Rosin, Penguin Books, 1976.

(23) A. Leroi-Gourhan, *Le Geste et la parole*, II, Albin Michel, Paris, 1965 (p. 36).

(24) K. Pribram, *Languages of the Brain: Experimental Paradoxes and Principles in Neuropsychology*, Prentice-Hall, Englewood Cliffs, 1971 (p. 241).

(25) *Ibid.* (p. 243).

(26) A. Luria, *The Working Brain, an Introduction to Neuropsychology*, Penguin Books, 1973.

(27) Observed and recorded in Toronto during the performances of the Shriners Circus (May 6-8, 1977).

(28) P. Bouissac, «The Semiotic of Spectacles: the Circus, Institution and Representation», in *A Perfusion of Signs*, T.A. Sebeok (ed.), Indiana University Press, Bloomington, 1977; «Why Circus Horses have Feathers: the 'Truth' of Natural Objects», in *International Workshop on the Cognitive Viewpoint*, M. de Mey, R. Pinxten, M. Poriau, F. Vandamme (eds.), Cognition and Communication, Ghent University, 1977; *Essays on the Semiotics of Nonsense*, Toronto Semiotic Circle, Prepublication Series, 1977, No. 3 (Victoria University, Toronto).

(29) V. Turner, *Dramas, Fields and Metaphors*, Cornell University, Ithaca, 1974 (p. 37).

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Sémiotique, linguistique, sémantique
Semiotics, Linguistics, Semantics

B

Semiotica narrativa e discorsiva. Retorica
Sémiotique narrative et discursive. Rhétorique.
Semiotics of narrative and discourse. Rhetoric

C

Socio-semiotica (socio- ed etno-linguistica)
Socio-sémiotique (socio- et ethno-linguistique)
Socio-Semiotics (Socio- and Ethno-Linguistics)

D

Semiotica letteraria; mitologia e folklore; poetica
Sémiotique littéraire; mythologie et folklore; poétique.
Literary Semiotics; Mythology and Folkloristics; Poetics

E

Semiotiche auditive.
Sémiotiques auditives.
Audio Semiotics.

F

Semiotiche visive e audio-visive
Sémiotiques visuelles et audio-visuelles
Visual and audio-visual Semiotics