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Toward the Question of the Genesis, Function, and Structure of Emotional Processes in the Child

The study of emotions and their development is very important in the investigation of general problems of the ontogenesis of human psyche, because the latter cannot be reduced to the development of intellect. The periodic changes in cognitive activity that take place during childhood are necessarily associated—as L.S. Vygotsky has correctly pointed out (1956; 1982, vol. 2)—with deep changes in the motivational-emotional aspect of a child’s personality. At the same time, the study of the genesis of human emotions has an immense psychological-pedagogical value, in that the upbringing of a young generation presupposes teaching children not only a specific system of skills, habits, and knowledge, but also the formation of a specific emotional attitude toward their surrounding reality and people, an attitude that corresponds to the goals, moral standards, and ideals of society. It should be noted that according to the wealth of available psychological and pedagogical data, the effectiveness of instruction itself (in the narrow sense

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of the word) depends to a significant degree on the child's emotional attitude toward the teacher and to the given task. It depends on the kind of emotions a given situation evokes in a child, on the way a child copes with success and failure while trying to achieve required results, and so on.

Thus, the study of regularities governing emotional development has an important role in solving a number of theoretical and practical problems of pedagogical and child psychology. While emphasizing the theoretical and practical significance of this issue, we have to state that, so far, it remains insufficiently studied and incomparably less developed than, for example, the problem of a child's intellect development.

This can be explained partially by considerable methodological difficulties that arise during attempts to simulate affective situations [*affektogennye situatsii*] under experimental conditions, as well as during the search for adequate methods of recording and investigating very complex external and internal changes that take place during a child's various emotional experiences. These fundamental difficulties in researching the above issue have a general methodological nature rather than a narrow methodical one. They are related to problems of overcoming subjectivist views, on the one hand, and physiological views of the nature of emotions and their development, on the other. These views are widely recognized and deeply rooted in this branch of psychological science.

Certainly, much has changed since the well-known Russian psychologist N.N. Lange (1914) compared Emotion to Cinderella, shared unfairly in the favor of her older sisters—Thinking and Will. There were great achievements in the physiology of affective processes, such as the development of a "central" theory of emotions that replaced the "periphery theory" advanced earlier by W. James (1905) and C.G. Lange (1856); the discovery of reticular formation and its role in the activation process; the detection of a bivariate system of information received and processed by the nervous system, and so on. In addition, of great importance for psychology were the physiologists' investigation of the role of emotions in the higher nervous activity in animals

and man (I.P. Pavlov), as well as the study of nervous mechanisms of emotional regulation, which brings behavior into accordance with the needs and requirements of a living being (P.K. Anokhin).

Nevertheless, as V.K. Viliunas (1974) correctly notes, widely accepted physiological reductionism in the approach to this problem, the attempt to substitute physiology for the psychology of emotions has only aggravated the methodological crisis that took hold of this branch of psychological science as early as the beginning of the twentieth century, and caused the loss of the very object of the psychological study of emotions. Thus, E. Duffy's (1941) approach, that reduced emotions to physiological manifestations of activation and denied their existence as a special class of psychic processes, gained wide popularity in foreign psychology.

Such physiological reductionism had a negative effect on both the psychological and the physiological study of emotions, because these complex phenomena of mental life "have to be understood psychologically in the first place" (*Pavlov's Clinical Environments* [Pavlovskie klinicheskie sredy], 1954, vol. 1, p. 275), and only then can the psychological data be translated into the language of physiology.

Despite all the methodological and technical difficulties, the development of the psychology of emotions made slow, but steady progress. Here we must note the achievements of P. Janet (1929) and H. Wallon (1963), who made a great contribution to our understanding of the vital role of human emotions, as well as the trends of their normal development and of disturbances during mental illnesses. Of considerable value as well are the studies of K. Lewin (1935), who first developed the procedure for strictly psychological experimental study of the affective processes. Recently, J. Piaget (1969) made an interesting attempt to represent the general progressive development of a child's emotions in connection with the development of his intellect and to describe their function in children's behavior.

Using critically reexamined experience, accumulated in world psychology and research data of their own, L.S. Vygotsky (1984, vol. 6), A.N. Leontiev (1972), S.L. Rubinshtein (1946), and others put forth a number of essentially important notions concerning

the dependence of emotions on the nature of the subject's activity, their regulative role in this activity, and their development in the process of an individual's acquisition of social experience accumulated by previous generations. These ideas, however, have not yet been sufficiently developed and defined; they have not cultivated the "beef" of experimental facts without which it is impossible to build a harmonic psychological theory of emotional processes and their development.

With the wide variety of existing views on affective processes in psychology, ideas still persist ideas that were established in the times of W. James and C.G. Lange, according to which feelings as psychic phenomena are epiphenomena deprived of vital value, echoes in the consciousness of the subject of archaic intra-organic reactions. There is a widespread opinion that the latter have a predominantly negative effect on complex forms of behavior. Thus, P. Young (1966) assumes that emotions disorganize activity, and J.-P. Sartre (1960) believes they cause "degradation of consciousness." As a result of this understanding of the role of emotions in a subject's interaction with the environment, a number of authors, beginning with Th. Ribot (1912), contend that, in contrast to intellectual processes, emotions follow a path of involution. In P. Fraise's view (1963), the less emotional the child is, the more adult he becomes.

In order to establish the true role of emotions in a subject's activity and to characterize an actual course of emotional development during childhood, it is necessary, from our point of view, to go beyond the confines of research methods predominant in this branch of psychology. Such methods, in fact, bear a phenomenological character and are reduced, on one hand, to a simple description of the subjective experiences of subjects, and, on the other hand, to descriptions of "bodily changes" that arise along with such experiences. It is necessary to switch to the objective, strictly experimental psychological study of the genesis, structure, and function of emotional processes, as was done in the study of intellectual and volitional spheres of human personality in the works of a number of Soviet and foreign authors. The special nature of the

problem requires its study in different fields of psychology, including, of course, the psychology of child development.

Guided by these considerations, with colleagues at the Institute of Preschool Education of the APS USSR, we undertook studies of emotional processes in early and preschool childhood. We aimed to establish the dependence of their development on the content and structure of children's activity and on the nature of a child's interrelations with the people around him. We were also interested in the connection between the development of emotional processes and how a child masters certain social values and requirements, the way he acquires moral norms and rules of behavior. We placed special emphasis on establishing the regulating role of emotions at various stages in a child's development. Besides purely psychological methods, in some studies we also applied various kinds of physiological research methods.

The development of emotions, as noted by A.N. Leontiev (1972), L.I. Bozhovich (1968), and others is closely related to the development of motives of behavior that emerge with a child's new needs and interests. Throughout childhood not only a deep restructuring of organic needs takes place, but also an acquisition of material and spiritual values created by society, which, under certain conditions, become the content of a child's internal motives.

In a study conducted under conditions of a psychological-pedagogical experiment, Ia.Z. Neverovich (1955a, 1955b, 1955c) analyzed the process of forming the simplest social motives for activity in preschool age children, consisting of their tendency to make something useful not only for themselves but also for others, their peers or the adults around them. This formative process was conducted in a specially organized collective labor activity of duty monitors (a child assigned supervisory duty-activities in the dining room, in the nature corner, in the play corner, etc.). This psychological-pedagogical experiment continued for about eight months. Initially, the instructor explained the meaning of their work to the children and its importance to the kindergarten's collective, aiming to instill in them an *orientational basis* for forthcoming actions and to create a

preliminary notion of social significance of these actions.

Later, the instructor systematically evaluated the duty monitors' work, discussing results with the children. In the course of joint activity, a collective opinion on the importance and necessity of the duty monitors' work was formed, and, thus, the fulfillment of working responsibilities by one child or another came to be evaluated not only by the instructor but also by other children. This created a rather rigid system of group requirements and expectations. The actions of a child corresponding to these requirements systematically received positive social reinforcement, while the actions not corresponding to them received a negative reaction. Nevertheless, the changes in children's mentality that occurred under given circumstances should not be interpreted as a simple adaptation to the actual social situation by mechanical memorization of encouraged forms of behavior.

The essence of the experiment lies in reorienting the child to new values. A kind of devaluation of the previously most valued games and entertainment took place, and correspondingly, the value of the previously least attractive serious and difficult tasks increased. Due to systematic participation in an important common activity, the children discovered its true sense, its usefulness for others around them, and the importance their own role played in this activity. In this way, psychological prerequisites were created for children's acquisition of social standards and requirements, the fulfillment of which was necessary for the successful realization of the joint labor activity.

The transformation of such requirements into requirements set for the self, that is, into the internal motives of children's behavior was accomplished gradually, over several successive stages. Initially, some children completely refused to be on duty, attempting to shift their responsibilities to someone else. Other children, even if they accepted the task, did not always carry it out well: they did not bring the task to completion, were distracted and began to play instead of working, and so forth.

Later, under created conditions of collective activity, children's behavior became more orderly; the tasks of a duty monitor were

carried out in a more organized way, but this happened only in the presence of external support, under the direct influence of adult guidance and the evaluations of adults and other members of the children's collective. Some children remained in this stage for a long time. For them, the *social essence* of the activity was still not the most important matter. Praise was of primary importance to them, first from the instructor, and then from their peers. Only when they could count on such praise did these duty monitors work in a more or less organized and productive fashion. As soon as those close by stopped paying attention to them, the children ceased to work and switched to other activities.

Subsequently, however, these children, some earlier, others later, passed to the next, higher stage of forming social motives of behavior. It was characteristic of this stage that the child began to fulfill work duties not to obtain adult praise and not to reach high *social status* in the children's collective, but rather to achieve a socially significant result by trying to satisfy the specific needs of people around them. At this point, the child acted on his own initiative without waiting for any instructions or encouragement, which indicated that the adopted social standards and requirements were transformed into the internal motives of the children's activity.

In the course of forming new behavioral motives, the nature of the child's emotional manifestations underwent substantial changes. Changes in the emotional sphere directly reflected, above all, changes in the motives of children's labor activity. With the formation of such motives, an indifferent attitude toward labor duties was transformed into a very high emotional sensitivity to evaluation of their work by others. Later, concerns associated with evaluation seemed to fade into the background and were replaced by completely different feelings related to how well the child managed to do useful work and how closely the results achieved corresponded to the interests of others, which now became the child's own.

Our data show, however, that emotion not only expresses one or another particular aspect in the motivation of child behavior; it also plays a significant role in the realization of these motives.

For example, Zhenia B. (six years, ten months old), who had already begun to form the simplest social motives of labor activity, and, in the absence of external or internal distractions, could manage sufficiently well his duty-monitor responsibilities in the dining room, nevertheless, could not resist temptations. At some point, when he saw children playing, he deserted the assigned task and enthusiastically plunged into the game. A few minutes later, although no one rebuked him, he grew nervous and confused, and his play activity abated; he looked at the unset dinner table, and, finally, with a heavy sigh, left the playing children to return to his responsibilities. The negative feelings caused by the nonconformity of behavior to what the child had already accepted as proper caused the depression of inappropriate actions and the stimulation of actions appropriate to the social motives that had already acquired for the preschooler a considerable incentive force.

An analysis of similar facts caused us to reexamine views that were widespread in psychology, and that we also shared at the time. These views concern the immediacy and simplicity of the relation between a motive and the activity it induces. These views are similar in essence to ideas about direct simple relations between the effector's impulse moving from the central nervous system and the motor reaction caused by it. Such notions were generally accepted in psychophysiology of voluntary motions until N.A. Bernshtein's studies (1947).

It turned out that the internal determination of activity through motivation is realized not directly, but using special psychological control, which we defined as a process of *emotional correction* of behavior. This emotional correction is similar to a sensory or, in a broader sense, cognitive correction. In contrast to the latter, however, it is characterized not by a correlation between the operational-technical side of activity and the objective meaning of the components of the problematic situation; rather, it brings the general direction and dynamics of behavior into agreement with the *sense* of this situation and the actions the subject produces to satisfy his needs and interests and to realize his value orientations (Leontiev, 1972, 1974). J. Piaget correctly points out

that cognitive and emotional regulation of actions undergo a progressive path of development throughout childhood, coordinating and complementing each other. Nevertheless, he incorrectly reduces emotions to physiological processes of activation when he writes that "it is the feelings that give action the necessary energy, while knowledge imposes on behavior a certain structure" (1969, p. 63).

In contrast to this, we think that emotion is not itself an activation process, but a special form of reflection of reality used for the mental control of activation or, to put it more accurately, the realization of psychic regulation of the general direction and dynamics of behavior.

Earlier we noted, that adults, evaluating the child's behavior from a perspective of specific social standards and requirements, substantially influence not only the methods but also the general direction or dynamics of the children's activity. After acquiring certain moral experience, the child begins to evaluate his own actions, thus passing to the stage of self-regulating behavior. N.M. Trunova (1975) specifically investigated the emotional reactions caused in the child-preschooler by an adult's evaluations and the influence of these reactions on the subsequent fulfillment of a given task. Without discussing the specific details of her study, let us focus only on the facts that are of general significance in understanding the genesis of emotional processes in the child. The adult's evaluation produced specific shifts in physiological indexes of emotions in the majority of children (such as changes in the pulse rate, skin-galvanic response, muscle tension, etc.), accompanied by change in the effectiveness of task fulfillment and the general strategy of behavior.

The character of emotional processes caused by appropriate evaluations also revealed significant individual differences. Thus, for some subjects, a negative evaluation led to the mobilization of their internal resources and to a noticeable increase in effectiveness of the activity, while positive evaluations produced insignificant changes. In others, on the contrary, negative evaluations led to excessive stress decreasing effectiveness of the activity,

while positive evaluations positively influenced its realization. Finally, the third group displayed a more or less indifferent reaction to both positive and negative evaluation by the adult; such evaluation did not produce any substantial effect on their internal state or on the effectiveness of their activity. As demonstrated in Trunova's research, among the factors that define individual differences, a significant role is played by specific aspects of the child's personality, formed in his past experience, such as the level of his ambitions and the character of his self-esteem.

We contend that the cited data are very importance not only in further investigation of psychological-pedagogical issues of individual approach in education, but also in the understanding of a number of general aspects of emotional processes.

A considerably greater range of individual differences in the character of emotional processes in comparison with cognitive ones can be explained by the difference in nature of the functions of the affect and the intellect.

If, following Piaget (1932, 1947), we can imagine the progress of children's intellect as the process of decentration and a passing from a subjective, egocentric position to an objective one, then we would have to admit that, in contrast to this, at all genetic stages, the processes of emotion preserve their somewhat centered nature. In fact, as Gal'perin (1959) has noted, even the conditions of tasks that belong to a semantic, motivational-emotional category also include the subject himself—with all the particular features of his personality, with his physical and spiritual qualities and states, his potentials and needs, and his own level of ambitions and self-evaluation.

In this sense, the emotional attitude toward reality is always subjective, and this defines the broad range of its individual variations. Furthermore, our experiments and observations show that, despite all the individual varieties of forms of expression, in the course of development, the emotions caused by socially significant matters and events acquire a certain commonality of content in the children we studied; they master goals and the ideals of our society in the process of life and education.

We return, however, from considering the common characteristics of emotional processes to their correcting role in children's behavior.

The nature of emotional correction substantially changes in connection with changes in the general nature of children's activity and the specifics of their motivation. As we mentioned earlier, during the transition from infancy to preschool age, the simplest forms of productive activity begin to take shape, when the child tries to do something that is needed, useful not only for himself but also for his peers and the adults around him. The emotional processes that regulate the forms of activity change accordingly. First of all, a change occurs in the content of affects, expressed first in the emergence of special forms of coexperience, empathy for other people for whose sake the actions are performed. Second, with increased complexity of the activity and distance separating its initial point from the final results, the place of emotions in the temporal structure of activity also changes, and they begin to anticipate the course of a given task (Neverovich, 1971).

As shown in the above-mentioned study on the formation of the simplest social motives of behavior in preschoolers, the shift of affect from the end to the beginning of the activity is accomplished gradually and requires a substantial change in the composition and structure of emotional processes. At the early stages of formation, appropriate emotional experiences emerge in the child if and only if inadequate actions have already led to negative consequences and the child has received a negative response from the instructor and the children's collective.

Thus, at the beginning of the experiment, Ella B. (six years, two months old) did not like doing duty monitors' work, and said that the nurse or other children must do it. As a rule, she would not complete the assigned task, preferring games and entertainment. When the experimenter asked her, along with a group of other children, to be on duty in the play corner, she refused to put away the toys and declared: "I do not want to, let Vitia put away the toys on his own, I want to go for a walk. I will put them away when I come back." The girl's behavior evoked a negative evalu-

ation from the instructor and the other children. This excluded her from the life of the children's collective, who were occupied in a cheerful, lively fashion with the assigned work, and achieving results that were praised by the teacher.

Under the circumstances, Ella's mood began to change. She became sad, stopped involving herself in play, and began enviously watching the children who were cleaning the group's room. Finally she stated: "Now I, too, will be on duty." Later, the girl began to fulfill her duties, but, for a long period of time she needed *external supports*—constant reminders and encouragement. At the early stage in the formation of new social motives of behavior, emotional correction bore a very imperfect, *retarded* nature and was activated if and only if the behavior considerably differed from a required course and after its consequences had been given a negative social sanction.

Later, with gradually a increasing impetus of children's social motives of behavior, a transition takes place: from relatively primitive, *retarded* to more advanced, *anticipating* emotional correction of actions.

This is illustrated by Zhenia B.'s behavior described above or by another case we observed, that of Tamara V. (six years old). As a result of previous instruction, Tamara was responsible about performing the assigned work: she gladly did the work of duty monitor in the dining room and in the nature corner, and she was always ready to help other children on duty. Tamara loved playing with dolls, and this sometimes distracted her from her work responsibilities. Once, when Tamara was working in the nature corner feeding small fish, watering flowers, and so on, her face suddenly lit up in a happy smile at the sight of a doll laying nearby, and the girl made a rapid motion toward it, apparently influenced by the desire to play with it. This motion, however, remained unfinished, suppressed at the very beginning by another affect—anticipation of the negative consequences that not fulfilling the obligations she had undertaken would cause. Anticipation impelled the girl to put off the game until a more suitable time and to go on with the assigned work, because she said with emotion: "I

have to feed the small fishes or they will all die and our group will have no nature corner.” This is evidence of a shift in affect from the end to the beginning of action, which L.S. Vygotsky (1966) pointed out in his time, based on results obtained by K. Bühler (1924).

While the affects appear, so to speak, at the earlier stages of age-specific and functional development, post-factum, as a positive or negative emotional evaluation of a directly perceived situation and of the result of actions, at the later genetic stages, they can appear prior to the action’s completion as the emotional anticipation of its possible consequences and the imaginary situation that may arise when the action is completed.

Anticipation has an important regulatory role in the more complex composition and motivation of forms of play and productive activities that begin to form at preschool age; in order to carry them out the child must not only imagine the distant results of the action, but also must feel the meaning his actions will have for himself and for the people around him.

Vygotsky’s notion (1968) about special forms of imagination and fantasy as a “second expression” of human emotions that not only facilitate their appearance but also their realization is very important in understanding the psychological mechanisms of the emergence of emotional anticipation. So far, unfortunately, this important statement has not been further developed in psychological studies. In attempting to develop it, we suggested that emotional anticipation arises as a result of the child’s special internal orienting-research activity, which forms on the basis of his practical interaction with surrounding reality. In the course of this activity, a unique functional system forms, which integrally combines both affective and special cognitive processes. Developing within this system, the emotions are intellectualized, they become *intelligent*, generalized, and anticipatory, while cognitive processes functioning in this system, acquire an affective nature and begin to perform a special role in meaning discrimination and meaning formation.

In the course of such emotional-cognitive activity, the child mentally occupies a specific position in the proposed circumstances,

accomplishes certain imaginary actions, and acts out diverse variations of interactions with the environment in an ideal plane. Thus, he has an opportunity not only to envision, but also to experience the meaning of a given situation, of the actions undertaken, and of their potential consequences for himself and for other people. As the results of our studies suggest, in the process of children's assisting of and empathizing with a literary hero (Zaporozhets, 1971), this activity initially is formed externally and extensively, and presupposes participation in directly perceived and experienced events. Only later, and only on this basis, can such an activity acquire an internal nature and be realized in the ideal plane of *emotional imagination*.

There are grounds to believe that in forming mental activity, which is necessary for the emergence of an ability to anticipate the results of other people's actions as well as to emotionally anticipate one's own actions, a fundamental role is played by a figurative, image-bearing means of dramatized verbal description and a graphic depiction of forthcoming events, a kind of simulation of their meaning and significance for the child himself or the people whose fate touches him. These expressive means, this *language of feelings* has a social origin. Its most perfected forms are represented in art, which is, in the apt words of Vygotsky (1968), an "instrument of society," by means of which society draws the most intimate and personal aspects of our being into the circle of social life.

Very efficient expressive means of people's daily communication are developed and widely used; these are closely connected with the language of art, albeit sometimes less perfect. In the course of a child's development these means are initially used to influence his emotional sphere. Later, they become the child's own means of communication and little by little they become an intermediary link to the structure of his emotional processes, causing their restructuring and intellectualization. This provides the opportunity not only to experience actions and events that are immediately perceived, but also imaginary actions and events that are of vital

importance for the child himself and for the people around him.

In one of our studies (Zaporozhets, 1971; Neverovich, 1971), we attempted to capture experimentally the formation of the unique orienting-researching, affective-cognitive activity that predetermines the appearance of emotional anticipation of an action's results. In sum, the experiment consisted of the following: children four to six years old had to put the group room in order, putting away the toys and arranging them in a certain manner. In the first two sets of experiments, the children's activity was not especially motivated (the series differed with each other only in terms of the nature of instruction and methods for completing the task). Insofar as the proposed activity was monotonous and boring, the children carried it out without any enthusiasm, and, as a rule, stopped working very soon.

The children's behavior changed substantially in the third set of experiments, when the fulfillment of the task was motivated by the fact that it was necessary to tidy up the room for the smaller children, who did not know how to do this on their own. With such social motivation, the effectiveness of the children's activity increased considerably overall, and especially in children five to six years of age. Nevertheless, a significant number of them initially started working actively and then became distracted; children began making mistakes and did not complete the work. We assumed that, although these children had already begun to develop new social motives of behavior, this did not properly define the general orientation and dynamics of their behavior for a lasting period of time, because our subjects still had not formed the psychological mechanisms for regulating activity through emotional anticipation of results, the mechanisms required for new motivation of the activity.

Proceeding from these assumptions, in the fourth set of experiments, we attempted to combine the introduction of social motivation for an activity with the creation of an emotional anticipation of its results. We tried to simulate visually the sense of the situation that was supposed to form as a result of task fulfillment, by using

dramatized verbal description and an expressive vivid depiction of how nice it would be in the playroom, how comfortable it would be for the smaller children to play in it after the older children had put everything in order and neatly arranged all the toys. At the same time, a gloomy picture of the consequences of nonfulfillment of the task was sketched using analogous verbal and visual means: disorder in the group room, little children crying, quarrelling, and unable to find their toys. Thus, we attempted to organize special mental activity in our subjects, *the activity of emotional imagination*, which would make it possible for them not only to imagine but also to experience the distant consequences of their behavior, feeling its significance for those nearby and the importance of the children's role in this matter. The results of the fourth set of experiments demonstrated that the formation of processes of emotional anticipation contributes to the mobilization of spiritual and physical forces of the child, increasing his level of activity that is directed toward achieving a set objective.

Having examined regulating functions of children's emotions in general and the emotions of anticipation in particular, we now return to the problem of content of emotional processes that was briefly outlined earlier, this time focusing on the question of what they reflect and how it happens.

The published studies of K.K. Platonov (Platonov, Shingarov, and Shmakov, 1968) and Shingarov (1971) advance an absolutely correct proposition that emotions are a special form of reflection of reality that play a regulating role in a subject's behavior. Nevertheless, a question still remains about the forms in which this reflection is realized and whether it takes on the nature of an image at higher stages of development. We believe that psychology has gathered a sufficient wealth of data attesting to the existence of a special kind of *emotional cognition*, during which the subject reflects reality in the form of emotional images.

In their time, W. James and C.G. Lange attempted to reduce emotional reflection to organic sensations of bodily changes arising in the subject under the influence of an affectogenous situation. Later, however, analysis of phenomenological data, especially

clinical observations and special experiments, and experiments with artificially induced “cold emotions” (Cantrill and Hunt, 1932) demonstrated that emotional phenomena are not reducible to organic sensations and the images that accompany them.

The most important property of emotion and its essential difference from organic sensations is that it is object-related, addressing something external that excites the person, something that destroys his psychological balance. In connection with this—along with changes in the internal state of the subject caused by objects and phenomena vitally important to him—emotional images reflect these very objects and phenomena, perceived and understood from the special point of view of the perspective of a person who is interested in them.

As described above, some characteristics of the genesis and structure of emotional images were established in our studies of children’s emotional anticipation of the results of their actions. Later, we undertook special investigations of similar kinds of images that arise in children in the process of literary perception. In the course of experiments, instructors read to children of preschool age a short story or a fairy tale. Reading was accompanied by a slide demonstration. Apart from special characteristics of behavior and statements made by the subjects, we registered physiological indications of their emotions (such as pulse frequency, skin-galvanic response, muscle tension, tremor, and breathing). Under the influence of listening to literary narration and perceiving visual illustrations, the children gradually developed empathy for the literary hero. The emotional image of the perceived events and interrelations was formed. This was indicated not only by the words and actions of the subjects but also by an emergence of intra-organic changes, which testified to the fact that the events of the story or the fairy tale involved the child and excited him. During repeated reading and slide demonstration, such changes in behavior and in physiological reactions began to anticipate the narration. In other words, the emotional images that arose began to anticipate what was going to happen to the hero of the story in the future as the plot developed.

An analysis of the data obtained allows us to suggest some preliminary ideas on *how* and *what* emotional images reflect.

We noted above that emotional processes are related not to the meaning but to the sense of situations and actions produced in them. In contrast to purely rational notions and concepts that reflect the objective significance of things in their connections and interrelations independent of the subject, emotional images reflect reality in its relation to the individual's needs and interests (Gal'perin, 1945). Accordingly, these images reflect an external exteroceptive picture of the environment: in it are individual and often hyperbolized features representing to the subject that value and sense he finds in people, objects, and events around him (the features may be attractive or repelling, frightening or causing anger, etc.).

Another specific feature of emotional images is in their composition, comprising, along with exteroceptive components, interoceptive components in the form of integral sensations and notions that reflect internal changes in the subject in the depths of his being that arise depending on which value, positive or negative, the situation has for the subject and how successfully he progresses toward achieving the goals vitally important to him. External and internal experiences merge in the emotional image into an integral whole.

The external picture of a problematic situation appearing in children's consciousness merges in some way with an interoceptive picture of those agitations and intra-organic changes that this situation evokes in the child or that previous analogous circumstances have evoked. The result is an emotionally colored field of reflection of the perceived reality, a field with a motivating force. K. Lewin (1935) described this field, but incorrectly interpreted it as a reflection of structure-forming processes taking place in the brain of the subject. In fact, emotional images reflect an objective reality, but this is a partial reflection that is realized from the perspective of a personality interested in it. This interest can be not only narrowly individual but also broadly social, as confirmed by

our data describing the early emergence of empathy in children, co-experience with another person, in particular with a literary hero.

Our experiments demonstrate that the formation of emotional images in the course of listening to fairy tales is accompanied by specific changes in motor activity and the activity of internal organs in the child. The intra-organic shifts observed during the appearance of emotions caused by imagined events—such as the anticipation of the results of one's own actions or the actions of a fairy-tale hero—are considerably weaker and expressed less externally than those accompanying impulsive affective reactions to directly received stimuli that are highly valued by the subject. This creates an impression that in the mental processes we have described—such as emotional representation, emotional imagination, and so forth—these intra-organic changes cease to perform the role of direct energy providers for executive, behavioral components of affective reactions that previously were inseparably connected with them. They transform into basal components of emotional reflection, acquiring a function similar to that fulfilled by inhibited vocal kinesthesia in the mental processes.

It is the presence of such interoceptive components in the composition of the emotional image that, in contrast to a purely rational image, sets their special motivating, activating character and ensures their regulatory influence on the orientation and dynamics of subsequent practical activity. This influence, however, is not direct; it is mediated by internal mental activity, which develops in the image field, that is, in the field of the emotional-cognitive reflection of the surrounding reality.

The process we have described of the way complex mental activity forms in the child and provides the basis of emotional anticipation of the results of one's actions, plays an important role in the moral development of personality. In the process of such activity, the child solves a special class of semantic problems through the mental transformation of a given situation. This allows him to discover a previously hidden positive or negative value in both the circumstances and the actions that can be performed

under those circumstances. While solving meaningful problems, the child, having reached a relatively high stage of intellectual and emotional development, attempts, as we have already indicated, first mentally to *act out* diverse variants of actions and to feel the sense that their consequences may have for people around him, and, therefore, also for himself as a social being. Thus, he has the opportunity to define the basic line of his subsequent behavior, avoiding erroneous actions that do not correspond to his needs and values, and that otherwise could be easily performed under the influence of fleeting desires and chance circumstances, if their results were not previously imagined and experienced emotionally.

Occasionally, emotional imagination degenerates into fruitless, sentimental fantasizing, during which the child seems to empathize actively with the selfless behavior of a literary hero or displays a certain emotional agitation because of the imagined consequences of his actions. These feelings, however, are so weak and have such a low motivating force that their influence on subsequent behavior is negligible.

Similarly to any other form of ideal, internal activity, an emotional idea, emotional imagination is initially formed—as evidenced in our investigation of emotions arising in children in the process of joint completion of the assigned tasks—as a result of the material, practical activity, realizing the child’s real interactions with reality, and, first of all, with people.

The moral practical experience acquired in this way is the fundamental source of the child’s feelings, and only this experience can add true content and a real motivating force to his emotional anticipations.

The deep shifts in the sphere of affective needs of the child’s personality, which take place during transition from early to preschool age, are caused by the emergence in preschoolers of intensive “orientation in the fundamental senses of human activity,” acquisition of the goals, motives, and norms of relationships between people (El’konin, 1971, p. 15). As a result of the development of a new social motivation for activity, children gradually

form more complex kinds of *anticipating* emotional regulation of behavior.

Some particular aspects of the development and function of psychological mechanisms of such regulation have been described in the present article.

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