

ON THE FIELD FORM OF COMMUNICATION OF BIOLOGICAL SYSTEMS Yu.V. Gurov ⁽¹⁾, D. Yu. Gurov ⁽²⁾

⁽¹⁾ Doctor of Medical Sciences, Professor of the Russian Academy of Natural Sciences, Senior Lecturer of the Department of General and Clinical Psychology of Volgograd State Medical University and General Director of the Volgograd Center for Psychotherapy and Self-Regulation "Salyus", 400120, Volgograd, st. Novouzenskaya 2a, tel. 8-(8442) -99-03-66. ⁽²⁾ Doctor of Medical Sciences, Assistant of the Department of Pathological Anatomy of the Volgograd State Medical University of the Ministry of Health of the Russian Federation, 400131, Russia, Volgograd, Square of the Fallen Bortsov, tel. 8- (8442) -97-13-99. salus.psy@gmail.com, salus.psy@yandex.ru

The article examines the phenomenon of information transfer from one biological object to another, incl. in the "person - person" system. Such a property of the indicated interaction as coherence, as well as induction-resonance interactions in the "human - microbial cell" system is considered. A conclusion was made about the ability of the body to generate electromagnetic fields, incl. thought forms, with sufficient interference coherence, as well as the ability of the body (human) to select coherent signals, incl. in the form of anisotropic energy fluctuations against the background of stochastic noise. According to the authors, the physical (semantic) field of a person is the result of the interference of coherent radiation of individual endogenous cellular structures of the body. The phenomenon of information transfer from one biological object to another was experimentally confirmed back in 1923, when A.G. Gurvich discovered mitogenetic radiation. In experiments with onion roots, actively dividing cells of the root tip at a distance of 2–3 mm induced mitosis in the meristematic tissue of another root, chemically isolated from it. A glass plate between two roots removed the effect, while a quartz plate did not affect the effect. Consequently, according to Gurvich's conclusion, the effect is due not to chemical influences, but to radiation absorbed by glass and not absorbed by quartz. Ultraviolet radiation possesses such properties [1]. Further studies have shown that not only onion roots have this property, but also various cells, tissues and organs of plant and animal origin. According to some scientists, it is surprising that A.G. Gurvich and his colleagues, such an important property as the directionality of radiation, did not arouse due interest [2]. We will return to the value of the vectoriality of radiation later. The work of Academician V.P. Kaznacheev was devoted to the problems of intercellular remote interaction - the discovery of "The phenomenon of intercellular distant electromagnetic interactions in the system of two tissue cultures", which is entered in the State Register of discoveries of the USSR under No. 122 with a priority date of February 15, 1966. The discovery formula reads : "The previously unknown phenomenon of distant intercellular electromagnetic interactions between two tissue cultures was experimentally established when one of them is exposed to factors of biological, chemical or physical nature with a characteristic reaction of another (intact) culture in the form of a mirror cytopathic effect, which defines the cellular system as a detector of modulation features electromagnetic radiation ". The essence of the discovery lies in the possibility of transferring biological information from one cell culture to another [3]. Academician V.I. Vernadsky emphasized the unusual organization of living matter in comparison with non-living matter. "When studying living matter, we are already dealing with a heterogeneous space. A living organism is represented in space by matter and field. A living organism is a multidimensional "condensed" space, 63 the configuration of which is largely due to the action of the fields of the microcosm. A biofield cannot be considered apart from physical fields "[4]. V.M. Inyushin devoted many years to the study of bioplasma as an organized plasma. "In general, in a living cell, all plasma structures, which include virtual particles, form a single bioplasmic cell ensemble, which is an integral system, the homeostasis of which is closely related to the stability of atomic-molecular components (water, organic molecules, etc.). Bioplasma, as an organized structure, is also a radiating system, it generates an ordered compositional field with a complex configuration - a biofield "[5]. It was V.M. Inyushin and P.R. Chekurov drew attention to the coherence of mitogenetic radiation of onion roots. Since cellular structures and a person as a whole are not only emitters of information, but also its receivers, in this case a cell or even a person can be used as a device that perceives influences from another biological object. For a number of years we have been studying induction - resonance processes in the "man - microbial cell" system and in the "man - man" system. Dealing with the issues of psychoneuroimmunomodulation and working with bacteriologists in the foci of infectious diseases (including natural focal diseases), we noticed that the effectiveness of the bacteriologist's work (% of seeding from sources of infection or from objects of the external environment) largely depends (all other things being equal) on the personality of the specialist. This was especially noticeable in the foci of meningococcal infection and acute intestinal diseases. Assuming that the stimulation or inhibition of the growth of sown crops is based on induction - resonance processes (quantum interaction in the "human - microbial cell" system), which, as we have shown earlier (Gurov Yu.V., Gurov D.Yu., 1996 [6]), take place in the system of psychotherapeutic influence at the personal, interpersonal levels and can determine the congruence or incongruence of such interactions, we tried to develop on this basis an objective test for assessing the degree of bioticty of the semantic field of a person - operator. The objects of the study were volunteers (50 people) with parapsychological features (in most cases, "accentuates"). The work was carried out within the framework of the expertise of traditional healers (expert commission at the

Volgograd branch of the Russian Academy of Ecology) [7]. A standardized live freeze-dried vaccine strain Y. Pestis EV was used as a biodetector. The viability of the culture was determined after its rehydration in sodium - phosphate buffer (pH = 7.0) and subsequent inoculation on solid nutrient media (control samples - the same plates (5 pcs.), But without field exposure). The “healers” were asked to mentally influence the culture (psychic auto-modeling), achieving either its accelerated growth (stimulation) or suppression of growth (inhibition). It was found that in the case of direct exposure in 10% there was a spontaneous inhibition of the growth of cultures, in 10% of cases - an indifferent reaction; in 76% - growth stimulation was registered, but only in 10% of cases the last tendency was significant ($p < 0.05\%$) compared to the control. It should be noted that only 4% of the subjects showed the ability to modulate the viability of the tested cultures after the corresponding mental self-modeling. Thus, by developing a test system for assessing the spontaneous bioenergetic orientation and the degree of modulation according to the vector of the operator's dosed field effect on the reference culture, it was possible to increase the effectiveness of psychotherapeutic correction and eliminate unwanted side effects in patients by taking into account the nature and degree of biotocity or abiotocity of the operator's field component (especially in terms of non-verbal exposure). For a number of years, we have also been studying the technique of induction of distant sensorimotor reactions, which is based on the fact that the semantic field of a person on the basis of induction-resonance mechanisms acts as a transmitter of information from a source - an operator (ontopsychologist, psychotherapist) to a recipient (client, patient) in the mode temporarily acting dyad with registration at the recipient of various dynamic gestalt formations induced. As a result of many years of research, we have patented two methods for analyzing the semantic field of a person. Within the framework of ontopsychology, the semantic 4th field is the aggregate information coming from the whole organism and containing information messages from all instances of the psychosomatic structure of a person, this is the basic information that precedes feelings and consciousness. This information can be transferred from one subject to another. And in this case, the subject receiving the information can analyze it, i.e. analyze the semantic field [8].⁴ In ontopsychology, “the term “ semantic ” is understood as an impulse in the process of movement, creating a form, which is then assigned by the recipient or resulting from a certain meaning, which we call an effect or symptom” (A. Meneghetti. Textbook of Ontopsychology / Translated from Italian - M.: Slavic Association of Ontopsychology, 1997. - 592 p.). Human communication involves not only verbal and non-verbal signals, but also psychosomatic radar. Psychosomatic radar is a genetically determined frequency of electromagnetic oscillations emitted by the brain, which, complementing verbal and non-verbal communication patterns, sends signals to the environment and perceives signals coming from the environment. With the help of this radar, a person transmits information about himself to the outside and perceives information coming from other people [9]. A. Meneghetti (the founder of ontopsychology) argued that such energetic interaction of people occurs in the semantic field, and the perception of the semantic field allows a person to know about any action, visible or invisible, that is related to him in his environment. This field is a radar given to man by nature. The peculiarity of the psychosomatic radar is that it can be directed both outside (extroverts) and inside (introverts) of a person. We understand the semantic field as the physical field of a biological object (person) with its bioenergetic and energy-informational features, which are revealed semiotically (by certain signs) at the level of kinetic-proxemic communications and which are further interpreted by the operator, establishing a pragmatic connection of signs with the “addressee” and its properties ... Let us consider two patented methods of analyzing the semantic field of a person, which in the “here and now” mode allow us to assess extra-introversion (intentionality), the level of reactivity and the degree of congruence and incongruence of the semantic field of a person. **The first method for analyzing the semantic field of a person** Initial development of skills in the technique of analyzing the semantic field based on the induction of distant sensorimotor reactions within the framework of kinetic-proxemic communication from the operator (donor) to the patient (recipient) by transferring standardized motor images (Patent for invention of the Russian Federation No. 2144316) [10] was carried out on volunteers - students of higher educational institutions of the city of Volgograd, and later this method was used in the Volgograd Center for Psychotherapy and Self-Regulation on clients in the process of psychological counseling, including problems associated with anticipating deviant behavior, in individual psychotherapy, psychotherapy in a group and group psychotherapy, as well as family counseling. The results of the interpretation were brought to the attention of the patient and he was subsequently free to make a decision. The study of the applied meaning of the analysis of the human semantic field was carried out within the framework of psychoneuroimmunomodulation. This work was carried out in 1976-2001 at the Volgograd Scientific Research Anti-Plague Institute and the Elista Anti-Plague Station. Research within the framework of psychoneuroimmunomodulation was carried out in two aspects: A) the use of the analysis of the semantic field of people subject to vaccination (specific prevention); B) the use of the analysis of the semantic field of a person as a way to determine the level of his nonspecific reactivity (nonspecific basis of immunity). The technique of induction of distant sensorimotor reactions is based on the fact that the semantic field of a person on the basis of induction-

resonance mechanisms acts as a transmitter of information from a source - an operator (ontopsychologist, psychotherapist) to a recipient (client, patient) in the mode of a temporarily acting dyad with the registration of induced various dynamic gestalt forms [11]. The operator and the patient stand facing each other at arm's length. This distance is optimal for the perception of the semantic field. The operator invites the patient to stand up straight and close his eyes, causing him, thereby, a state of unstable muscular balance, which contributes to an increase in the accentuation of perception. To enter into resonant interaction with the patient ("join"), the operator begins to copy his state (swaying, micromovements, breathing). Then the operator, addressing the patient, pronounces a verbal formula for motivating behavior of an indefinite type, containing predicates of the kinesthetic modality, and which forms the patient's readiness for induction. Further, the operator mentally auto-simulates (creates a mental image) the motor acts that are induced in the patient. Moreover, auto-modeling and induction of motor acts is carried out in a certain sequence: from general, for example, torso tilt, to highly differentiated muscle movements, for example, fingers or tongue. Where possible, the movement act has a different direction: up, down, forward, backward, right, left. Different physiological processes can be auto-modeled, but it is easier to analyze the semantic field by the motor act. Due to induction, the patient experiences sensorimotor reactions of a different nature and severity. If the patient almost does not react to the induced process, then this means that he has a sensitivity to external influences or practically no reactivity, that is, his semantic field has an introversive (inward) orientation. If the patient reacts to the induced process, it means that he is sensitive to external influences, that is, his semantic field has an extraversive (external) orientation. The level of reactivity of the semantic field is determined by the size of the effective (for the implementation of induction) interpersonal space in the operator-patient system. So, if the induction of sensorimotor reactions in the standard position for testing is not noted - a low level of reactivity: if reactions are recorded with an interpersonal space of 1-5 meters, the average level, and when over 5 meters - a high level of reactivity. 66 Along with these indicators, the congruence or incongruence ⁵ of the semantic field is revealed - the correspondence or inconsistency of the fields in the operator-patient system. ⁵ Congruence (from the English congruence) is understood as the equivalence of functioning at the quantum level (personal or interpersonal) and this already secondarily determines the psychosomatic state of integrity and complete sincerity, when all parts of the personality work in phase on the basis of bioenergetic induction-resonance mechanisms and therefore it functions as purposeful system of direct response to internal or external stimuli. With incongruence, a person feels the need to use psychological defenses. At the same time, his inner experiences and feelings are not accurately reflected by consciousness, and therefore by behavior of the type of abreactions (reactions of paradoxical reaction). Congruence is determined by the degree of coincidence of the induced and emerging sensorimotor reactions. The higher the match, the higher the congruence. Incongruence is also assessed by the degree of coincidence of the vectors of the induced emerging sensorimotor reactions, but with the opposite sign. This is a kind of indicator of the paradoxicalness of the patient's response. The degree of congruence (or incongruence) is determined by the level of differentiation of the emerging sensorimotor reactions. The higher the differentiation of the reaction during the sequential induction of motor acts (the fingers of the extremities or the tongue react), the higher the degree of congruence (or incongruence), the lower the differentiation of the reaction (only the trunk reacts), the lower the degree of congruence (or incongruence). Thus, we can talk about high, medium and low degrees of congruence (or incongruence). All the revealed signs of the semantic field must be taken into account at the psychosomatic level in any interaction in the operator-patient system, whether it is making a prognosis of treatment or the effectiveness of vaccine prevention. Moreover, these signs can be taken into account all at once or separately. Thus, the orientation of the field makes it possible to clarify the duration of the course of treatment and dosages (medication, massage, acupuncture, etc.) With an extraverted orientation of the field, the dose is less and the duration is shorter than with an introverted orientation of the field. The level of reactivity allows you to clarify the prolongation of the course and the amount of dosages. For example, with a high level of reactivity, a short course of treatment with low doses is sufficient (for vaccination, the recommended regimen is by the type of hypoimmunization); at a low level of reactivity - a prolonged course of treatment with higher doses (with vaccination, hyperimmunization gives the best effect). If the incongruence of the semantic field is revealed, then it is necessary to act on the patient from the opposite: "It is not necessary to listen to my voice." And he certainly listens. "You will remember everything." And he forgets everything. "You are always hungry." And his appetite decreases. The reflex effect to reduce appetite causes him a "brutal" appetite, and the sleeping pills formulation - insomnia. That is, in patients with the incongruence of the semantic field, a paradoxical response is observed, the opposite effect at the psychosomatic level in comparison with patients in whom the congruence of the semantic field is revealed. Thus, the proposed method is implemented very quickly, within a few minutes; simple, since it can be performed by any authentic operator capable of performing auto-modeling and induction of a motor act. To objectify the process, one can use visual control of a third party or control using technical means (photo, electromagnetic devices, etc.). 67 **The second way to analyze the semantic field of a person** Another approach to the analysis of the semantic field (Patent for invention of the

Russian Federation No. 2277853) [12] is to determine congruence or incongruence within the framework of proxemic communication in the patient-patient interaction system [13]. An operator and at least one pair of patients are involved in the implementation of the proposed method. If there are several pairs, the operator conducts research sequentially for each pair. In any case, the orientation and level of reactivity of the semantic field are determined for each patient first according to the method described above. Further, the study of the semantic field is carried out with the help of an operator in a pair of patients. Moreover, the research scheme for extra- and introversion couples is somewhat different. When a couple consists of extraversionally oriented patients (and it is enough to have even one extrovert in a pair), they are placed face to face at arm's length, with their eyes closed. The operator verbally suggests the reciprocal attraction of the patients and then, due to his outward cognitive activity - energy anisotropic fluctuations 6 - makes an attempt to break the interpersonal interaction of the patients' semantic fields. 6 "The essence of self-organization is the main vital interest in the fact that in the space of an individual living system, some of its parts transfer their energy reserves to others. The phenomenon of energy transfer from different parts of the system to its more limited area, the potential of which increases as a result, is called fluctuation ... In a living system, fluctuations - the process of redistribution of energy and information is carried out regularly and naturally ... The radiated weak effect can be ordered in time and space, in particular, be anisotropic, in contrast to the thermal effect - disordered, isotropic" [13. P. 57]. And if there is a rapprochement of patients with different degrees, the degree of congruence of semantic fields is recorded. When a couple consists of introversionally oriented patients, they are also positioned facing each other at arm's length, with their eyes closed. Each of the patients verbally autosuggests the idea of mutual attraction with the simultaneous figurative representation of another patient, and then the operator, due to his external cognitive activity, attempts to kinesthetic rupture of the interpersonal interaction of the semantic fields of the patients. At the same time, according to different degrees of repulsion, a different degree of incongruence is recorded: If only a tendency to repulsion is noted - a weak degree of incongruence. With the effect of loss of balance, a strong degree of incongruence. To objectify the process, one can also use visual control of a third party or control with the help of technical means (photo, video, electromagnetic devices, etc.). When there are several pairs, for example, when conducting hypnotherapy, in addition to taking into account the interaction between the operator and each patient, which is revealed by the orientation and level of reactivity of each patient, the interaction between the patients in the pair is taken into account. Thus, this method of analyzing the semantic field of a person is also realized quickly, within a few minutes; simple, accessible for mastering, since it can be carried out by an authentic person - a specialist who is able to carry out auto-modeling of a motor act, induction and the ability to take out his cognitive activity. In conclusion, I would like to formulate a hypothesis about the physical nature of radiation, which transmits information from person to person at the field level. If the organism is regarded as a "state" of cells, then the physical (semantic) field of a person is the result of the interference of coherent radiations of individual endogenous cellular structures of the organism. From these positions, it is possible to explain interpersonal interaction based on induction-resonance processes. In this regard, we consider it worthy of attention to the assumption of some authors that "... coherent radiation carries a hologram of the state of the object" [5. P. 66]. Based on the conclusions of A.V. Budagovsky that "against the background of stochastic interference, biological objects can reliably recognize only correlated signals, i.e. intercellular interactions should be carried out by fields with a sufficiently high coherence" [2. P. 90], we have formulated two important conclusions necessary for the existence of a field communication channel on an induction-resonance basis in the "human-human" system: 1. The body's ability to generate electromagnetic fields, incl. thought forms with sufficient interference coherence. 2. The ability of the body (human) to select coherent signals, incl. in the form of anisotropic energy fluctuations against the background of stochastic noise. **References** [1] Gurvich A.A. The problem of mitogenetic radiation as an aspect of molecular biology. - USSR Academy of Medical Sciences. - Leningrad: MEDICINE, 1968. S. 14. [2] Budagovsky A.V. Distant cell-to-cell communication. - M.: NPLC "Tekhnika", 2004. - 104 p. [3] Kaznacheev, V.P., Mikhailova L.P. Superweak radiation in intercellular interactions. - Novosibirsk: Science, 1981. [4] Vernadsky, V. I. Biosphere and noosphere. - M.: Ayris-press, 2012. -- 576 p. [5] Inyushin V.M., Chekurov P.R. Biostimulation with a laser beam and bioplasma. - Alma-Ata: Kazakhstan. - 1975. -- 120 p. 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