TURNING TOWARD SUBJECTIVITY IN RELIGIOUS AND VALUES EDUCATION RESEARCH

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FOUR PARADIGMS AND THE HISTORY OF EDUCATION

Paradigm shifts that took place in a number of scientific disciplines during last centuries of European history are associated with powerful philosophic movements such as empiricism of XVII-XVIII cc., positivism of XIX c. and existentialism of XX c. Reconceptualization of God-human relations played the main part in the process. But it had a cognitive dimension as well which is of particular interest when we talk about research methodologies. So we can try to map paradigm shifts in an epistemological frame. One way to do it is presented on the figure 1 below. Its detailed description may be found in a number of previous articles on the topic.[1]

The frame is based on two epistemological questions: about the reliable source of knowledge and about the preferable object of cognition. These questions that lied behind the good part of philosophical controversy of previous ages constitute coordinate axes. Now applying our Cartesian coordinate system to the Khunian theory of paradigms and using W. Dilthey's distinction between *Naturwissenschaften* and *Geisteswissenschaften*, we can distinguish between four archetype paradigms associated with the dominance of mystical, dogmatic, scientific and humanitarian cognitive modes. Historically these four came one after another.

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[1] Fedor **Kozyrev**, "Two Concepts of Religious Education in Postmodern Age: 'Humanitarian' versus 'Holistic'" – *Ecumenism of Life as a Challenge for Academic Theology: Proceedings of the 14th Academic Consultation of the Societas Oecumenica.* Eds. Bernd Jochen Hilberath, Ivana Noble, Peter De Mey (Frankfurt am Main, Verlag Otto Lembeck, 2008), 77-92; Fedor **Kozyrev**, "Towards a New Paradigm of RE in Eastern Europe" – *Religious Education in a World of Religious Diversity.* Eds. Wilna A. J. Meijer, Siebren Miedema, Alma Lanser-van der Velde (Waxmann: Müenster, 2009), 21-39.

The liberal idea of education tightly linked with the ideal of personal rational and moral autonomy corresponds to the left side of the scheme. Its first epistemological premise is recognition of natural human capacity to obtain true knowledge by means of sensual experience. It came as a result of emancipation of science and education from indisputable supremacy of external authority. It legitimized and praised critical thought.

Figure 1. *Space of Pedagogic Reality in Epistemological Coordination*			
		Source of knowledge	
		the immanent	the transcendent
Subject of knowledge preferred	the subjective	field D Existentialism Humanities (*Geisteswissenscbaften*) humanitarian paradigm	field **A** Mystics Prescholastic (Esoteric) paradigm
	the objective	field C Positivism Natural Sciences (*Naturwissenschaften*) scientistic paradigm	field **B** Dogmatics scholastic paradigm

Yet looking from another perspective we find another serious distinction that lead to the formation of two different educational strategies and two types of cognition. The upper subset of the paradigms corresponds to the choice of dwelling in the realm of subjectivity with its intuitively grasped meanings that can't be fully objectified. This choice is more common for arts and humanities as well as for mystical religious life. The lower subset corresponds to the commitment to external formalized knowledge. It is common for scholasticism and natural science. The last turn of the ship of civilization came with correction of the ideal of objectivity that had been

acquired in the course of the 'quest for certainty'[2] by European thought. Erasmus, Comenius, F. Bacon, Montaigne, Rousseau and Pestalozzi saw the main hazard for holistic education in the isolation of scholastic, mostly metaphysical knowledge from the living experience, and their holistic approach was charged with strong commitment to empiricism. Nowadays educators are much more skeptical about empirical knowledge taken per se without consideration of political, social and personal issues behind it. Empirical science, regarded as a main liberating force in the struggle with idols of human minds at the time of Bacon, becomes suspected to be an idol itself. This is the core idea of postmodern age.

Though the project of Enlightenment evidently stimulated pedocentric ideas in education, it retained and promoted at the same time some features of scholasticism such as forms of instructions providing students with closed and final knowledge exempt from doubts and further questioning. Dogmatism of modern science turned to be even stronger than dogmatism of religion. Praising personality, Enlightenment at the same time made human subjectivity an outlawed in cognition. The mistreatment of personal dimension of knowledge had wide social implications and made a solid contribution to the inhuman affairs of XX century. Through the replacement of the quest for objectivity with the quest for existential truths, humanitarian paradigm gives a new birth to the old idea of humanism, filling it with new experiences and new visions. With its focus on the richness of the concrete, it is incompatible with the neglect of an individual's insights, beliefs and truths in educational interaction. But what is even more important, humanitarian style of thinking includes not only new ideals, aspirations and dreams but also higher level of methodological equipment for educational practice and research. That's why it can be regarded as a progressive step in the spiral development of culture. And that's why we can talk about current paradigm shift in accordance with original Kuhnian meaning of the term.

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[2]   Stephen **Toulmin**, *Cosmopolis. The hidden agenda of modernity* (Chicago: The University of Chicago Press,1990).

EIGHT PREMISES OF HUMANITARIAN PARADIGM

There are different ways to describe new epistemological culture constituted by different converging streams of thought of XX century. According to W. Mejer and A. Blyth main four essentials of humanities are:

- concern for real and concrete people,
- focus on the particular,
- contentment with partial explanation and
- appeals to moral response.[3]

According to another approach presented here, humanitarian culture of thought may be identified with eight premises. They are existential, phenomenological, hermeneutic, constructivist, holistic, teleological, idiographic, and dialogical premises.

The **existential** one comes first both in chronological and axiological orders. Existentialism can be regarded as the philosophic foundation of humanitarian paradigm. Humanitarian epistemology is concentrated around the idea of personal knowledge. In fact the idea is as old as philosophy. For the first who called for knowledge independent of sensual experience was Parmenides and the first who took human perception as a point of reference was Protagoras. His phrase "Man is the measure of all things" may be fairly taken as a motto for humanitarian paradigm. It took more than two millenniums before another similarly laconic motto was offered by Kierkegaard "Truth is subjectivity". Starting with Kierkegaard existentialists strictly refused to define human beings as rational essences, and, thus came in direct conflict with dominant paradigm based on rationalistic and positivistic claims. They asserted that people actually make decisions based on subjective meaning rather than on pure rationality. By taking into account existential situation of the person these thinkers seriously complicated the issue of truth criteria, but at the same time they made personal freedom an indispensable factor of truth. Thus existentialism fulfilled great humanistic mission[4].

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[3]   Alan **Blyth**, "Taking It Personally: An Approach to the RE-Humanities Interface in the English Primary Curriculum" – *British Journal of Religious Education,* 22/1 (1999), 15-24.

[4]   See Jean-Paul Sartre's lecture "Existentialism is a Humanism", given at Club Maintenant in Paris, on October 29, 1945.

Personal knowledge is the title of a book written in 1958 by M. Polanyi[5] and inspired, as the author confessed himself, by a conversation he had with a Soviet leader M. Bukharin in Moscow in 1935. I was "struck by the fact", witnessed Polanyi, that Bukharin's "denial of the very existence of independent scientific thought came from a socialist theory which derived its tremendous persuasive power from its claim to scientific certainty". Extrapolating this amazing fusion of skepticism and utopianism onto the whole contemporary civilization, Polanyi found it necessary to reconcile the morbid dissonance by reconsidering the essence of human knowledge. And in order to do it he suggested start "from the fact that *we can know more than we can tell*"[6] This is how the idea of the implicit *tacit* dimension present in each type of knowledge appeared in Polanyi's thought.

The idea was in good consonance with the move of epistemology after Kant towards the search of innate unconscious sources of so called synthetic a priory judgments that were not explainable by references to sensual experience. Husserl among others went the same way and also recognized the existence of ideal and tacit (*pre-linguistic*) implicit constructions in human mind. His moral aspiration, close to that of Polanyi, was targeted against philosophically unsustainable and uncritical belief of scientists in their assumptions about external world. Kierkegaard and Sartre were also aware of this positivistic habit and called it 'bad faith'. Husserl demanded higher level of reflexivity and invented special procedure for bracketing assumptions: phenomenological reduction, or *epoché*. Thus his **phenomenology** gave one more powerful impulse for regarding mental and spiritual activity independent of physical basis, and made one more practical step in building 'Geisteswissenschaft ' on its own scientific foundation.

Regarding RE, the role of phenomenology is difficult to overestimate. The idea to present religious material to the students in the insider's terms, to help them to see religion by the eyes of the believers was the only possible way through the bad dichotomy offered by religious education theory

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5   Michael **Polanyi**, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 1958; corrected edition, 1962).

6   Michael **Polanyi**, *The Tacit Dimension* (N.Y.: Doubleday and Comp. Garden City, 1966), 3-4.

of that time: either religious instruction on strictly confessional basis or neutral objective study of religion on scientific basis. When the idea of the third paradigm of RE first appeared in English didactical literature it took a form of 'phenomenological, or undogmatic approach' as presented in an influential paper on RE in English secondary schools [7]. According to it the problem of scientific anti-dogmatic, or better to say anti-confessional approach is that "religion cannot be properly understood apart from subjectivity", so any satisfactory approach to RE should be the way of interpersonal understanding.[8] This is a phenomenological idea in practice. More so is the *principle of intentionality* advocated by N. Smart in the same paper: "Description must include reference to the intentions and beliefs of those who engage in them"[9]. "Religion cannot be understood simply from the outside. It is like stained-glass windows in the cathedrals. You see them from outside and they are nothing, grey and colourless. You see them from the inside, and they are wonderful, full of life and colour".[10] The switch of educational aims from explanation to understanding, exactly in accordance with Dilthey's distinction between *Geisteswissenschaft* and *Naturwissenschaft*, came as a natural consequence of this demand to include inner perceptions of the believer into interpretation of religious phenomena.

In the history of philosophy and science phenomenology received rather hard criticism than appreciation, and its destiny might be very bitter, if it was not enormously fertile in producing more fortunate side shoots. **Hermeneutic** phenomenology is the greatest among them, and one of its masters Paul Ricoeur called this development the grafting of old hermeneutics onto the young tree of phenomenology. Another master of this new epistemological trend is a man who personifies the unity of three main premises of humanitarian thinking, for he is regarded as a representative of existentialism, phenomenology and hermeneutics at the same time. Martin Heidegger is interesting for us not only as a student of Edmund Husserl but also as a teacher of Georg Gadamer. The story of the three scholars shows how complicated was this turn of paradigm towards

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[7]   **Schools Council**, *Working Paper 36: Religious Education in Secondary Schools* (London: Evans/Methuen, 1971), 21.

[8]   *Ibid.*, 22-23.

[9]   *Ibid.*, 50.

[10]   *Ibid.*, 49.

the subject. Though Husserl denied the assumption that the ideal representation of outer reality (eidos) may exist independently of consciousness, he called himself a Platonist and indeed he shared with Plato the belief in higher epistemological status of the universal over the individual. While not giving a clear answer on what kind of transcendental reality these ideal beings came from, Husserl treated them as ultimate aim of cognition and tried to sweep them clean from culturally and individually constructed biases as a kernel from the shell. Georg Gadamer proposed to do exactly the opposite. For him these shells are a real object for study. Prejudices occupies in his system the same position and status of transcendental conditions of understanding that in Husserl's system belonged to intentionality as a mode of immanent existence of objects in mind. Far from putting aside one's prejudices, one must process them reflectively and critically to achieve most valuable and finally most objective information.

Heidegger with his concept of pre-understanding and with his accent on individual pre-given perspectives that determine one's meaning construction, bridges these two polar streams in post-Kantian transcendental studies. Pre-understanding for Heidegger is something that constantly works within us but remains implicit. Being a determinant and a goal of cognitive process at the same time it creates a hermeneutic circle. The aim of a researcher is to make this implicit structure explicit. Such a reconsideration of the aim of phenomenology triggered its further transformations in the direction of hermeneutics. It is difficult to say which one of the two poles is more distant from the positivistic platform. Methodologically Gadamer and especially Ricoeur rely more heavily on analytical procedures, and intuitivism of Husserl in this sense seems more radical rapture with tradition of rationalism. On the other hand Husserl transcendental phenomena stand for what has been regarded before Kant as objects and in this sense he is closer to previous tradition of the pursuit of 'objective truths' than his followers surrendered to the totality of subjectivity.

Anyhow new hermeneutics is so closely connected to phenomenology that it is hardly possible to deal with the key hermeneutical issue of interpretation without reference to its phenomenological prehistory. In the theory of RE this link was carefully depicted by Robert Jackson in his book *Religious education: an interpretative approach*. Jackson fairly

states that when "freed from the language of ideal types and essences", phenomenology of Van der Leeuw and Waardenburg aiming at reconstructing or transposing religious meanings of the insider "sounds like hermeneutics".[11]

The fourth premise of humanitarian paradigm is **constructivism**, also deeply interwoven in the body of existential thought. English mathematician William Stephenson, the founder of Q methodology, obviously derived from a constructivist perspective, stated that 'subjectivity is the basis of reality'[12] in a sense that people behave not according to reality itself, but according to the subjective reconstructions of reality they developed in the course of their experience. By focusing on inner structures responsible for the implicit interpretation of reality constructivism came closer to a basic educational problem indicated by J. Herbart, W. Stern and W. Dilthey, that is the problem of introception. In introception, according to Stern, the *I* makes the affirmation of the values of *not-I* as its own intrinsic values. Not using this particular term, Dilthey also regarded this moment crucial for the whole pedagogical enterprise. He denied possibility to unite norms, ethical judgments and principles into one generally valid and coherent moral system precisely because they have got not abstract but concrete existential meanings in each moral subject, so the attempt to put this system inside the person would cause the conflict of the two 'wholes'[13]. Paradoxically it means by the way that the more moral is the student, the more resistant he should be to moral education. The more complex and coherent is the inner cosmos of values, the less chances to change it from outside, unless a concurrence of aims is found. W. Mejer reminded us recently that this **holistic premise** of character education was formulated as early as 1802 in Herbart's *Aesthetic Revelation*: "…Edification to a self-conscious personality should without a doubt happen in the mind of the pupil itself and it should be executed by the pupil's own activity; it would be nonsense for the educator to want to produce this

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[11] Robert **Jackson**, *Religious Education: An Interpretive Approach* (London: Hodder and Stoughton, 2002), 24.

[12] Donald J. **Brenner**, James **Aucion** and Hao **Xiaoming**, "Quantum stuff in communication: Some implications of Stephenson's concept" – *Operant Subjectivity, 21* (1998), 139-150.

[13] Wilhelm **Dilthey**, *Gesammelte Schriften*. Bd. IX (Stuttgart, Gottingen, 1960), 173.

essential power and to put it into the soul of the other being"[14].

Dilthey disagreed with Herbart on the idea of founding pedagogical theory on the empirical psychological basis. For Dilthey it was a fruitless task. But constructivism took up both stances. It followed Dilthey, existentialism and hermeneutics in regarding the system of subjective meanings as the primary reality to deal with in education and research, but it followed Herbart as well in his intention to make subjectivity measurable. So constructivism amplifies the already mentioned inner methodological tension present in hermeneutics. On the one hand it is a more radical retreat from objectivity, a sort of ontological nihilism, denying the very question about ontological status of perceived reality. It is 'knowing without metaphysics' in the words of Ernst von Glasersfeld, or *epistemology without ontology*, as his radical constructivism is sometimes defined. On the other hand constructivism relies much stronger than phenomenology and hermeneutics on empirical data and its analytical procession. It includes into its methodology the whole arsenal of quantitative methods and statistics making subjectivity an empirical fact. It opens the perspective of *measuring the subjectivity*.

Constructivism takes advantage of holistic premise in a somewhat instrumental way. While in hermeneutics holism is perceived as an expression of internal infinity and impossibility of its full formalization in accordance with K. Goedel *Incompleteness theory*, in constructivism on the contrary holism becomes a source for formalization. Among the two qualities of consciousness underestimated by behaviorist science – activity and integrity – Herbart has chosen the first. He endowed ideas or mental representations with physical properties of dynamic forces. Unlike Herbart constructivists of 'informational age' prefer the second quality and try to formalize psychological phenomena in structural terms. Not the intensity of ideas but their structure and the way of their organization into a whole is regarded as a measurable variable. And this choice is obviously inspired by the revolutionary changes in our computing facilities.

In fact constructivism marks an option alternative to the presented scheme of paradigm shifts and counts on the perspective of synthesis or

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[14] Wilna A. J. **Meijer**, "The Aesthetic Revelation of the World as Education's Main Concern" – *International Handbook of the Religious, Moral and Spiritual Dimensions of Education.* Eds. Marian de Souza, Gloria Durka, Kathleen Engebretson, Robert Jackson, Andrew McGrady (Dordrecht: Springer Academic Publishers, 2006), 883-892.

convergence of the two paradigms based on humanitarian and empiric-analytical methods. Indeed, humanities are not alone in their struggle for overcoming the deficiencies of mechanism and reductionism of former age. **Synergetic** ideas of natural science inspired by phenomena of self-organization in nature are of particular affinity with humanities. Synergetics, 'the science of structure', in Hermann Haken's terms, encourages vision of principle non-stability of complex systems (such as the inner value-cosmos of learners) and non-linearity of their development. This vision stimulates reliance on more refined methods of interaction with the learners such as weak or point impacts, stimulation of predicted pedagogical situations, resonance-inducing influences etc. It raises pedagogy and educational research on a higher technological level.

Irreversibility and instability found in nature questions the sustainability of deterministic premise of the former science. Ilya Prigogine in his book *The End of Certainty*[15] claims that determinism is no longer a viable scientific belief. He points to the empirical fact that unstable systems acquire specific sensitivity to their initial conditions. It seems like they become 'able to see' other neighboring systems and this sensitivity is a reason to refuse any attempts of linear predictions. Situation of permanent *bifurcation* becomes a more adequate description of development instead. It means a small smooth change made to a parameter of a system may cause a sudden qualitative or topological change in its behavior. This *butterfly effect* became widely known after famous Ray Bradbury's *A Sound of Thunder*. According to Prigogine new non-deterministic physics teaches us to deal in this way not only with politics but with all natural and human phenomena on the earth, including individual development of a person.

The raise of indeterminism in physics echoes in other branches of natural science, including biology and medicine. As to pedagogy, the **teleological premise** was explicitly present already in the works of Dilthey who opposed the causal-mechanical principle of natural science with the principle of self-improvement according to which psychological processes can't be explained by the influences of external factors. Grounded in the existentialist veneration of freedom, this premise received important

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[15] English version is co-authored – Ilya **Prigogine** and Issabella **Stengers**, *The End of Certainty. Time, Chaos and the New Laws of Nature* (New York: The Free Press, 1997).

conceptual development and practical implementation in logotherapy or existential analysis of the Third Viennese School of Psychotherapy founded by Viktor Frankl. According to logotherapy, the "striving to find a meaning in one's life is the primary motivational force in man"[16]. Criticizing Freudian 'pan-determinism' Frankl wrote: "Man is not fully conditioned and determined but rather determines himself whether he gives in to conditions or stands up to them. In other words, <…> man does not simply exist but always decides what his existence will be, what he will become in the next moment"[17].

Extrapolated to pedagogy, this growing emphasis on self-determination of a human being finds its expression in the demand for individual and dialogical approaches to learners. And this is where we meet two other premises of humanitarian way of thinking, concluding our list: **idiographic** and **dialogical** one. Another proponent of authentic methodological basis for Dilthey's *Geisteswissenschaften*, also German and also Kantian philosopher Wilhelm Windelband offered a useful distinction between *nomothetic* and *idiographic* sciences. The former shows a tendency to generalize and to embrace the studied phenomena in general by use of universal laws. The latter shows a tendency to specify and concentrate efforts on the understanding of the unique. The distinction between the two can be explicated also in terms of extensive and intensive infinities. Orientation towards one of these determines the whole arrangement of science including strategy, methods, hypotheses, samples, results and products. The distinction is really helpful in demarcating humanitarian and positivistic paradigms especially in sciences that can be classified both as natural and humanitarian, such as psychology or pedagogy. According to this criterion, behaviorism with its Thorndike's Laws is a typical nomothetic science while Frankl's psychotherapy and a huge bulk of pedagogy may be classified as idiographic projects. Not only pedagogy but even a history may be nomothetic, and Marxist theory gives a best example of this type of historical inquiry oriented toward the discovery of universal laws.

Idiographic orientation in scientific activity does not necessary mean radical limitation of the scope of generalizations. If so, this activity hardly

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[16] Viktor **Frankl**, *Man's Search for Meaning* (N.Y.: Washington Square Press, 1984), 121.

[17] *Ibid.*, 154.

could be regarded scientific. But it rather means the turn from mechanic to organic model of the world. If unique phenomena under study are connected to the whole not as components in a machine but as cells in the organism or monads in the universe of Leibnitz, each cell or monad keeping the image of the whole, then the study of the unique somehow reveals the general. And as much as humanities at positivistic times were charged strongly with nomothetic ideology, so the natural sciences of today acquire elements of idiographic approach. The fractal principle or holographic methods are among these acquisitions.

The **dialogical premise** is the last in our list, but it could be put also on the first place, due to its crucial importance for educational practice and research. So much is written about dialogue in RE that it seems hardly possible to add something new. Dialogue in the form of interviews or by means of some deeper participation in the life of the studied communities or persons has become a dominant strategy in the whole range of social and humanitarian disciplines. Dialogical relations slowly become a matter of discussions in natural sciences as well. It was Niels Bohr who said that after the discoveries of quantum physics people became actors not only in the theatre of life but also in the scientific lab. Today some physicists are inclined to regard empirical studies more in terms of ancient mantic procedures in the course of which the scholar acting as a priest addresses his/her questions to the nature and receives or does not receive answers. If physics will develop further this sort of dialogical approach – well, then we will have mystical physics, as we had Marxist history of the positivistic era.

TWO STRATEGIES FOR EDUCATIONAL RESEARCH

There is a serious problem associated with the turn of scientific methodology toward subjectivity. This problem was concordantly recognized by Kant, existentialists and phenomenologists, and identified as the problem of the Other. What is coherent, logic and rational in my subjective system of meanings may appear fundamentally irrational, illogical and arbitrary in the others. This relates not only to inter-personal communication but also to cooperation between scientific schools and to the whole

arrangement of scientific interaction. The same message does not produce the same effect on all audiences and the same discoveries are not interpreted in the same way by all schools of thought. If we lose general criteria of validity we can't agree, and the loss of these criteria is a direct consequence of taking a unique and subjective system of meanings as a primary reality for study. *Similia similibus curantur.* In epistemological projection this ancient saying may mean that by choosing subjectivity as an object of study we legitimize subjectivity on the part of researcher.

There are different ways to deal with this problem. One is to distinguish between *information* theory referring to matters of fact that can be proved or disapproved and *communication* theory working with self-references, as suggested by W. Stephenson. Another is careful evaluation of the statuses of statements, recognition of intrinsic rules of the language games and demarcation between different systems of interpretation. This is what we have learnt from Wittgenstein and Ricoeur. But these approaches will hardly return the level of unity scientists enjoyed (or suffered from) under both scholasticism and Enlightenment. Pluralism of truths is something we will have to do with for a long observable perspective. As for educational practice it's not a big deal. People always disagreed, and the existence of different religions, ideologies and systems of values was a common condition for education throughout its history. But for science perceived for centuries as the depositary of one-and-only true knowledge for all, it is a real challenge. I see two ways how methodology can deal with it.

One is to go on moving in the direction depicted by our scheme. It means to go more and more far away from the belief in objectivity that inspired science in positivistic times. And it means finally to plunge into mysticism, because the demand for unity is constitutive for human spirit, and if one can't satisfy it on rational level, one will find it in irrational contemplations. Some signs of this perspective are already notable in science. Among them is a growing tendency of *intra*-disciplinary fragmentation of scientific communities. It seems like scientists are quickly adapting to the plurality of truth though in a specific way. They don't stop to claim possessing absolute knowledge but instead of disputing and competing with other schools of thought which claim the same, they prefer just to ignore their existence. As a result a growing number of scientific schools look like religious orders gathered around gurus and their teachings, while so

called scientific establishment takes functions of former holy inquisition.

But the main risk for freedom of science on this way comes today not from religious bodies (which, judging from their public rhetoric, still mostly dwell in positivistic era), but from political bodies and business. Emancipated from serving theology, science easily becomes a servant of welfare. And if principle of objectivity is compromised, it is difficult to see any rational objection to submitting science to corporative interests, be they interests of a state or of a company. Employment of humanitarian methods based on the study of selected cases gives great advantages over old science for those who would like to manipulate public opinion not barehanded but armed with 'scientifically proven facts'. It is especially so if these methods are used with loose rules of sampling and bold manner of extrapolation. In the perspective of these risks, the disavowal of scientific impartiality undertaken by M. Polanyi, T. Kuhn and Frankfurt neo-Marxist scholars creates a necessary basis for epistemological sanity. To escape fallacies and intended fraud, young generation of scholars should be taught to tackle idiographic data in a careful way that prevents them from transferring these data directly into nomothetic theoretical frame. Generalizations may be quite valid if a case under study may be regarded as *homeomerous* to the bigger entity. But this type of generalization needs more solid ontological grounding, the one we still don't have.

An alternative strategy is to implement new epistemological premises by means of using both idiographic and nomothetic approaches in a complementary way. It is the way toward synthesis of humanitarian and empiric-analytical methodology. In order to achieve this goal phenomenology offered a new and very extravagant method of study while constructivism relied on the existing arsenal of analytical and statistical methods. I am a devotee of the last option. I think it would be a more vantage tactics in the struggle against dictatorship of methodology not to refuse the instruments of the dictatorship but to make them to serve the oppressed, that is, to use them creatively for the sake of scientific freedom.

A predicament on this way is high requirements to qualification of researchers. To improvise with standard methods one should be a virtuoso. But today we have got a growing number of inspiring examples of fruitful improvisations suiting old analytical tools for serving idiographic and constructivist tasks. A famous proponent of factor analysis Raymond

Cattell advocated it as a technique that, unlike most other statistical methods, "can be profitably used with relatively little regard to prior formulation of a hypothesis".[18] This comment sounds in tune with the basic intention of phenomenology and gives us a one more glimpse into amazing coherence of ideas lying behind the observable paradigm shift.

Those who used factor analysis know pretty well how different may be resulting pictures coming after different modes of rotation and how much freedom one has to choose the one which fits better to the conclusion one wants to defend. This experience may be distressing. It may ruin faith in science. But the faith for which this revelation is dangerous is that very 'bad faith' of Kierkegaard and Sartre which should be dispersed as fog by the light of education. Yes, science has and always had a lot of instruments for manipulation. But possibility of corruption is not an argument against progress. The more qualified are both researchers and their critics, the less ground is for misuse of facts.

Once I looked at my figures of factor analysis and suddenly understood what they reminded me. They reminded me pictures of ultrasonic scanning. Both reveal the hidden object only for a skilled observer. Both produce very different pictures of the same object. The analogy came for me as the evidence that my virtual complex of spiritual values was a really existing object like an organ or an embryo inside the body. But then it became also clear that in order to operate this wonderful new technique with good faith in science we need a serious step forward in epistemological culture, in epistemological education and in practical training of our young researchers. This is a challenging task, but it will be hardly possible to talk about methodological progress in pedagogical studies, if we deny this chance.

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[18]   Raymond B. **Cattell**, *Factor Analysis* (New York: Harper and Bros., 1952), 21.