

PANSYSTEMS METHODOLOGY AND PSEA: PEDAGOGY,
SOCIOLOGY, EPISTEMOLOGY, AESTHETICS

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Pansystems methodology (PM), a transfield network-like research and its applications to PSEA are introduced. The keywords include PM3456, PM concepts, etc.

INTRODUCTION, PM3456

PM is a developing transfield multilayer network-like (both macro-microcosmic, both generalizing and concretely deepening) methodological research on general thing-laws, generalized systems and the so-called PM concepts (3F) with emphasis on relations, relation transformations, pansymmetry and sufficiently observocontrollable modelling (4E).

Background (5B): Transfield generalization and methodological summary of various studies. Combination of the ancient and modern, Chinese and foreign, east and west. Modernization of methodology, epistemology or PSEA. Megatrends of development of modern sciences and technology. New research on large scale supercomplicated dynamical systems with damaged information and fuzzy factors.

From the viewpoint of development, a prospective goal of PM is (6D): To establish certain transfield systems of concepts, principles, models, methods, theorems and techniques which are closely connected with philosophy, mathematics, systems science, cognition science, technological science and other fundamental sciences.

PM3456 means the combination of 3F, 4E, 5B, 6D.

PM CONCEPTS

We use colon and parentheses to represent definition, and asterisk to an ordered combination. The semicolon will be used as disjunctive.

PM concepts: (generalized systems; transformation; pansymmetry; PM relations; PM frameworks; PM extractions; PM strengthening). Generalized system: ((generalized hardware, generalized software)). Generalized hardware: (any given set of things or generalized systems). Generalized software: (panweighted relations of generalized hardware; panweighted relations or PM relations of generalized software). PM relations: (12 generalized relations of generalized systems: macrocosm-microcosm; motion-rest; whole-parts; body-shadow; causality; observocontrol; shengke; panorder; series-parallel; simulation; clustering-discoupling; difference-identity). Shengke: (synergy-conflict; pros-cons; advantage-disadvantage; interdependence; intergeneration; interpromotion; interenhance; interinsult; interrestraint; interinhibition; interinvasion; gains-losses; superiority-inferiority;...). Transformation: (panweighted relations of generalized systems; generalized systems with parameter). Pansymmetry: (generalized-approximate-relative symmetry; freedom-restraint relation; difference-identity relation; simplicity-complexity relation; strong change-weak change relation; generalized systems of pansymmetries). PM extraction: (relatively optimal exposition; selection; extraction; design; formation; development; discarding). PM strengthening: (strengthening by using 4E, PM3456, PM concepts or 6D developed in PM). PM framework: (conceptual referential framework consisting of certain epitome, variance or intertransformation of PM concepts).

Panlanguage: (family of panweighted relations; panlanguage of panlanguage). Pannetwork: (PM framework-network; generalized software of pan-network; panlanguage of pannetworks; pannetwork of pannetworks). Quotient system: (system of subsystems covering prototype system). Quotient simulation: (simulation * quotient-reducing). Bird's eye view: (extension * projection * quotient-reducing). Microscopy: (confinement * embodiment * production-reducing). Epitome: (confinement * projection). Panembodiment: (extension * embodiment).

Explicit simulation: (body-body relation). Implicit simulation: (shadow-shadow relation). Synergy simulation: (epitome-epitome relation). Quasisimulation: (panembodiment-panembodiment relation). Pansimulation: (whole-parts relation; body-shadow relation; pansimulation * pansimulation). Panproduct: (quotient epitome of direct product). QP-quasisimulation: (quotient epitome * product panembodiment).

SOME CONCEPTS IN PM EPISTEMOLOGY

PM exposition: (4E; PM simplification; PM; QP-quasisimulation; socializational observocontrol pan-network). PM simplification: (projection; epitome; bird's-eye view; confinement; quotient simulation; quotient epitome; simulation epitome; clustering; composition; decoupling; epitome-subsystem-cause reduced from macrocotic goal-effect). The PM view of the world (PMV): (anything is considered as a sort of PM exposed/PM unexposed generalized systems or PM concepts). Synthetic PM extraction (SPME): (PM extraction of combining macrocosm-microcosm, whole-parts, nearness-far, vertical-horizontal, synthetic index, synergetic development). PM observocontrol law(OCL): (PM extraction of epitome, PM simulation, simplicity-complexity, panenvironment, pandistance). Some typical modes of analysis of PM:

- (1) Prototype--- trilayer function-structure analysis of subsystems-systems-megasystems--- SPME.
- (2) Prototype--- 4E--- generalized systems, pansymmetries, PM concepts (new prototype)--- ...
- (3) Supercomplicated shengke megasystems--- PM simplification--- PM concepts and their transforming analysis.
- (4) Prototype--- generalized field, networks, pan-networks, panlanguage, systems--- relation transformation-pansymmetry analysis--- PM extractions.
- (5) Prototype--- panembodiment--- quotient epitome co-diagnosis--- panembodiment.
- (6) Prototype--- synergy simulation--- quasisimulation--- PM extractions.
- (7) Family of prototypes--- common quotient epitome--- PM extractions.

SOME CONCEPTS IN PM SOCIOLOGY

PM extractions in PM sociology: (1) Pansymmetry. (2) Causality. (3) Panorder. (4) 5-combination(whole-parts, observocontrol, causality, series-parallel,

simulation). (5) Whole-parts relative shengkeicity. (6) Causality relative difference-identity. (7) 3-factors (generalized resources, players, rules). (8) Socializational observocontrol pannetwork. (8) Strengthening extension-variation based on PM relations. (9) PM clustering-discoupling of panweighted relations according to given tolerance and panweighted fields-networks or panlanguage. PM Complication Principle: (1) Culture is a PCOCF (pattern, criterion, observocontrol force-level-achievements) of socializational behavior propagated by symbols, images, language, artificial panlanguage and their extension or varieties based socializational observocontrol pannetwork. (2) Theories, tools, literature, arts, sciences, technologies are certain QP-quasimodels (carriers, epitomes, objectization, crystallization, essence or dross) of this sort of PCOCF.

SOME CONCEPTS IN PM PEDAGOGY AND PM AESTHETICS

For the exploitation of intelligence, talents, education, a typical PM extraction of key-panorder is: (1) Social and natural panenvironment, and active PM extraction of shengke of men with the panenvironment. (2) PM extraction of psychology training. (3) Sufficient health. (4) Direction, way, insight, method, mode, strategy, tactics. (5) Ability, talent. (6) Learning, knowledge, information. (7) Diligence, operations research of time and other resource. And for (5)(6) one should grasp certain gene-like or seed-like elementary subsystems, substructures or building blocks in order to form combination explosion in coordination with the high-speed development of modern science and technology (Biexplosion Shengke Principle, BSP). About (1)-(7) and BSP, PM pedagogy developed many concrete concepts, principles, modes, causality analysis and techniques (see references). Transforming research of PM concepts can be used in PSEA. Generally speaking, the true is connected with certain pansymmetry, and the good is mainly embodied as PM extraction of pansymmetry for sufficiently extended society. The so-called virtue in substance is an outcome or reflection of utility of certain social systems or subsystems, it possesses certain historical nature. There is no such thing as eternal morality transcending utility of any subsystem of society. As for beauty, it is mainly (directly or indirectly) connected with QP-quasimodels or objectization of socializational

pansymmetry or its PM extraction. Aesthetic feeling is a sort of moving one for beauty and this sort of feeling is derived from dynamical interactive process of subject-object in socializational observo-control pannetwork, including conscious or unconscious QP-quasisimulation-recreation-reform-distillation or extension, PM extended variation and PM extraction. A technical programming of production of artificial beauty is: epitome-cooperative pan-embodiment, or QP-quasisimulation plus imagization. And plots can be designed by panweighted causality network within PM extraction analysis for interest psychology. The other studies on PM aesthetics can be find in references.

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