

Digitalizing Natural Theology and AI-Robot Philosophizing of God by Algorithmic Computing Relevant Evaluation-Functions

Abstract. Subject-matter – a possibility of moral-legal programming AI-robot behavior in general, and a possibility of theological programming AI-robot-activity especially, as foundations for adequate response to the human concerns about a possibility of Artificial Intelligence violating human interests. Method – discrete mathematical modeling. New scientific result – a demonstration of the possibility of digitalizing philosophical theology. The demonstration is implemented by exemplification of adequate representing human knowledge of philosophical theology principles in artificial intellectual systems. For the first time in world literature on the theme, a deductive proof of logic consistency of conjunction of principles of God’s existence, omni-goodness, omnipotence, omnipresence, and omniscience is submitted.

Keywords: digitalizing-metaphysics; discrete-mathematical-model-of-formal-axiology; applying-two-valued-algebraic-system-of-metaphysics-as-formal-axiology-to-theology; AI-robot; philosophizing-of-God-by-computing-evaluation-functions

Today human culture is challenged by indispensable digitalizing all its aspects. In spite of the humanitarians’ irritation and resistance, even metaphysics, ethics, jurisprudence, and theology are to be digitalized somehow for effective using contemporary and future information technologies. The tendency to computerization of the humanities requires inventing and investigating adequate mathematical

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models of the subject-matter; formulations and solutions of problems are to be translated (by means of a code) from the natural human language into artificial one of AI-robots.

With respect to digitalizing the humanities in general and philosophical theology in particular, the present paper submits a qualitatively new (psychologically unexpected) idea and even a significantly new method for solving some kinds of philosophical theology problems. For being taken seriously, this statement is to be explained, explicated and illustrated by concrete examples. To instantiate, explicate, and explain it convincingly, below I consider the article by G. F. Englebretsen discussing the *logical incompatibility* of God's existence and omnipotence [1]. In Englebretsen's article one can find the following text: "In other words, either God is not omnipotent or He does not exist. If God is omnipotent, He does not exist. If God exists, He is not omnipotent. There is no omnipotent God" [1, p. 31]. This Englebretsen's statement is challenged in the present paper by means of formulating and solving difficult theology problems within a two-valued algebraic system of metaphysics interpreted as formal-axiology [2–4].

The two-valued algebraic system of metaphysics understood as formal axiology is based upon the set Δ of such and only such either existing or not existing elements (for example, things, processes, events, actions, agents, etc.) which are either good or bad ones from the viewpoint of a valuator V . Algebraic operations defined on the set Δ are evaluation-functions. Evaluation-variables of these functions take their values from the set $\{g, b\}$. Here the symbols "g" and "b" stand for the abstract axiological values "good" and "bad", respectively. The functions take their values from the same set. The symbols: "x" and "y" stand for abstract-value-forms of elements of Δ . Elementary value-forms deprived of their contents are independent evaluation-variables. Compound value-forms of elements of Δ deprived of their contents are evaluation-functions determined by these variables. Let symbol V stand for the *evaluator*, i.e. that person (individual or collective one – it does not matter), in relation to which all evaluations are performed. In the evaluation-relativity theory, V is a variable: changing values of the variable V can result in changing evaluations of concrete elements of Δ . However, if a value of V is fixed, then evaluations of concrete elements of Δ are definite.

Speaking of evaluation-functions in this paper I mean the following mappings (in the proper mathematical meaning of the word “mapping”): $\{g, b\} \rightarrow \{g, b\}$, if *one* speaks of the evaluation-functions determined by one evaluation-variable; $\{g, b\} \times \{g, b\} \rightarrow \{g, b\}$, where “ \times ” stands for the Cartesian multiplication of sets, if one speaks of the evaluation-functions determined by *two* evaluation-variables; $\{g, b\}^N \rightarrow \{g, b\}$, if one speaks of the evaluation-functions determined by *N* evaluation-variables, where *N* is a finite positive integer. Now let us introduce by the below-presented glossaries and define by the below-submitted tables the evaluation-functions directly relevant to the theme of this paper. First of all, let us consider the evaluation-functions determined by *one* evaluation-argument.

The *glossary* for the below evaluation-table 1: Let the symbol *Bx* stand for the evaluation-function “*being, existence, presence of (what, whom) x*”. The symbol *Nx* stands for the evaluation-function “*non-being of x*”. *Wx* – the *constant* evaluation-function “*absolute nonbeing of (what, whom) x*”. *Dx* – the *constant* evaluation-function “*absolute being of (what, whom) x*”. *Gx* – “*God of (what, whom) x in monotheistic world religion*”. *Ax* means the evaluation-function “*a-priori knowledge of (about) x*”. *Ex* means the evaluation-function “*empirical knowledge of (about) x*”. *Yx* – “*empirical knowing by (whom) x*”. *Jx* – “*a-priori-knowing by (whom) x*”. *Cx* – “*knowing by (whom) x*”. *Kx* – “*knowledge of (about) x*”. *Sx* – “*sensation of (what, whom) x*”. *Tx* – “*thought of (what, whom) x*”. *Ox* – “*an opinion (doxa) about x*”. *Hx* – “*a hypothesis, guess about x*”. *Rx* – “*a revisable belief in (what, whom) x*”. *Fx* – “*a not-revisable belief (faith) in (what, whom) x*”. The above-introduced functions are defined by the table 1.

The *glossary* for the below evaluation-table 2: Let the symbol C^2xy stand for the evaluation-function “*y’s presence, existence in (what, whom) x*”. (Here the upper number-index 2 informs that the indexed capital letter stands for a function determined by *two* arguments.) The symbol S^2xy stands for the evaluation-function “*y’s sensation of x*” or “*y’s feeling (what, whom) x*”. E^2xy – the evaluation-function “*empirical knowledge of (about) x by (whom) y*”. A^2xy – the evaluation-function “*a priori knowledge of (about) x by (whom) y*”. K^2xy – “*y’s having a knowledge-in-general, i.e. either a-priori or empirical one, of (about)*

x ". Pxy – “ y 's absolute ignorance of (about) x , i.e. having neither empirical knowledge nor *a-priori* one of (about) x ". L^2xy – “necessity of y for x ". F^2xy – “ y 's being not-necessary for x ” or “ x 's being free from y ”. P^2xy – “possibility of y for x ”. Z^2xy – “impossibility of y for x ”. D^2xy – “determination of x by y ”. U^2xy – “ x 's being undetermined by y ” or “ x 's being independent of (from) y ”. These functions are defined below by the table 2.

Definition DEF-1 (of the notion “*formal-axiological-equivalence*”): in two-valued algebraic system of metaphysics as formal axiology, any evaluation-functions α and β are *formally-axiologically equivalent* (this is represented by the symbol “ $\alpha = + = \beta$ ”), if and only if they acquire identical axiological values (from the set $\{g$ (*good*), b (*bad*) $\}$) under any possible combination of axiological values of their evaluation-variables.

Definition DEF-2 (of the notion “*law of metaphysics*” or, which is the same, “*formal-axiological law*”): in two-valued algebraic system of metaphysics as formal axiology, an evaluation-function is called *formally-axiologically good (or absolutely good)* one (or a *law of metaphysics*), if and only if it acquires the axiological value g (*good*) under any possible combination of axiological values of its variables. In other words, α is a *law of metaphysics*, if and only if $\alpha = + = g$.

Definition DEF-3: (of the notion “*formal-axiological contradiction*”): in two-valued algebraic system of metaphysics as formal axiology, an evaluation-function is called “*formally-axiologically bad*” one or, which is the same, a “*formal-axiological contradiction*”, if and only if it acquires the axiological value b (*bad*) under any possible combination of axiological values of its variables. In other words, α is a *formal-axiological contradiction*, if and only if $\alpha = + = b$.

Now let us consider the following system of equations (formal-axiological equivalences) obtained by computing compositions of relevant evaluation-functions within the algebraic system.

1) $Gx = + = g$: God's omni-goodness is a formal-axiological law of algebra of metaphysics [2].

2) $BGx = + = g$: God's existence is a formal-axiological law of algebra of metaphysics [3].

Table 1

The Evaluation-Functions Determined by One Evaluation-Argument

x	Bx	Nx	Wx	Dx	Gx	Ax	Ex	Yx	Jx	Cx	Kx	Sx	Tx	Ox	Hx	Ry	Fy
g	g	b	b	g	g	g	b	g	g	g	g	b	b	b	b	b	g
b	b	g	b	g	g	b	g	b	b	b	b	g	g	g	g	g	b

Table 2

The Evaluation-Functions Determined by Two Evaluation-Arguments

x	y	C^2xy	S^2xy	E^2xy	A^2xy	K^2xy	P^2xy	L^2xy	F^2xy	Z^2xy	D^2xy	U^2xy
g	g	g	b	b	g	g	b	b	g	b	b	g
g	b	b	b	b	g	g	b	b	g	b	b	g
b	g	g	g	g	g	g	b	g	b	b	g	b
b	b	g	b	b	b	b	g	b	g	g	g	b

3) $C^2yGx=+=g$: God's omnipresence (ubiquity) is a formal-axiological law of algebra of metaphysics [4].

4) $P^2Gxy=+=g$: God's omnipotence (all-mighty-ness) is a formal-axiological law of algebra of metaphysics [2].

5) $A^2yGx=+=g$: God's omniscience is a formal-axiological law of algebra of metaphysics.

Thus, being formal-axiological laws of algebra of metaphysics, God and His attributes are quite compatible in spite of [1]. From the computational metaphysics and digital theology standpoint [2–4], Englebretsen's erroneous conception [1] results from such a formalization which is not adequate to the subject-matter.

References

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