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The Mission of the Scientist Yesterday and Today: On the Centenary of Max Weber's "Wissenschaft als Beruf"

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ABSTRACT

The idea of a special role of the scientist in modern society was proposed by Max Weber in his lecture 'Science as a Vocation'. Weber saw the scientific community as an entity possessing the exclusive ability to produce 'objective' (and not subjective evaluative) statements about nature and society. In this sense, representatives of science (in its Pythagorean setup, which Kepler, Galileo, Newton, and others used to share), viewed themselves as people endowed with the highest mission to implement the Divine Plan for the design of the universe and development of society. This century-old idea of the sovereign right of scientists to determine trends of scientific and technological development has widespread relevance in today's situation, in which science is becoming increasingly professionalized, while the individual motivations of the scientist and his idea of his special mission are losing their significance. This article focuses on the actualization of Max Weber's ideas on science in modern conditions. A substantiation is provided to the fact that the concept of *scientific cognition* in Weber's interpretation conceptually bundles together all other basic concepts of social philosophy, primarily time (scientific), objectivity, sociality, truth, and values.

KEYWORDS

Max Weber; scientific cognition; science as a vocation; the profession of the scientist

1. Introduction

We would like to dedicate our article to the centenary of Weber's famous work 'Science as a Vocation.' Students of the Faculty of Philosophy of Moscow State University study this work in their first year of majoring in social philosophy. In our opinion, this is not by chance. This work makes scientific cognition a key problem of social philosophy and social 'grand theory.' The concept of *scientific cognition*, as understood by Weber, bundles up conceptually other basic concepts of philosophy, primarily, time (scientific), objectivity, sociality, truth, and values. We would like to show this particular relation in our paper.

In this work, Weber proposed the concept of *modern science*, resting on a certain temporary logic of human life, as it was formulated by Leo Tolstoy. That he explicitly refers to the ideas of the Russian thinker is rewarding because it supplements a general multicultural perspective characterizing the regional cultural specifics of his contemporary science: American science as an unpleasant but inevitable prospect of transforming a university into a state-run capitalist corporation, capable of producing only temporarily relevant products; French science with its unjustified claim to 'eternal' truths and with its 'immortal body' (the French Academy of Sciences as the complete opposition to the Tolstoy's temporary logics of human life). In addition, within the context of scientific cognition,

the very concept of *modernity* obtains a definition and loses its contingency associated with the local perspective of an observer of science, relative to whom the past, future, and modernity, as their boundary, obtained their situational definiteness. Now it is possible to speak objectively about the modernity of science.

This article by Weber has always been used as a methodological program for the purification and demarcation of science, which, as is known, starts to be discussed by the Vienna Circle around this time as well. In addition to the methodological program of the text, it contains a second plane, which can perhaps be considered the main one: Weber's article is valuable as a *diagnosis* of modern German and in part American science of his time (P. Duhem makes a parallel diagnosis, strangely not even mentioning Weber in his work) (Duhem 1915). It is 'American science,' controlled by bureaucracy and business (recall Habermas here), that is closest, in Weber's opinion, to the *ideal type* of modern science. This, if you prefer, is his empirical illustration. On the contrary, French science is farthest from this ideal type of modernity, which Weber develops with the help of Tolstoy.

This regionally differentiated diagnosis and hypothetical prospects for science in various countries allow us to see from the height of our time how and to what extent the trends that Weber noticed relative to German and partially to global science have been accomplished. It seems that this work has not been done yet. Let us consider in detail the components of this diagnosis–prognosis.

2. Profession of a Scientist in the Modern World

In the first part of his article, Weber formulates the 'external' social conditions of science as a profession. In the second part, as if responding to the wishes of students and in line with the very purport of 'interpretive sociology,' he reconstructs the *internal conditions* of scientific cognition, which transform considerably the motivations and tenets of modern researchers.¹ These internal conditions are predetermined as if 'apophatically' by the suggestion of a certain list of 'vanishing illusions,' which used to constitute scientific cognition 'as a vocation,' but now have lost their motivating force. Thus, science is no longer understood as the 'way to true being,' the 'way to true art,' the 'way to true God,' the 'way to true happiness,' etc. A student who is choosing his/her profession² cannot any longer reckon on these 'ultimate' results of his/her research. Science as an occupation and sphere of activity should offer some other, its own, achievements. Should a scientist (and broadly, any rationally thinking contemporary) give up these tenets and motivations? Should all previous fundamental meanings be dissolved used by someone interested in the world order appear to act as a *compensatory mechanism* to motivate scientific inquiry?

We, of course, cannot but pay attention to the fact that all the above illusions and the corresponding, now inaccessible, objects of cognition (god, nature, happiness, art) are provided with a 'truth' index. In this sense, Weber brings forth, explicitly and implicitly, the problem of truth. And this concept, strictly speaking, crosses the red line in Weber's article and paradoxically forms the essence of a new *inner meaning* of scientific communication. Having lost its 'dedicated referents' (god, nature, beauty, and happiness), this true index itself turns into a dedicated object of search from a predicate, i.e. a referent and not its subordinate quality. Now truth does not depend on which referents it is applied to; hence, it can be applied to itself and to its fundamental counteragents, values and faith. It turns out that the *truth/value* distinction predetermines the criteria of this or that proposition belonging to science, and simultaneously, the *Lehrer/Fuehrer* distinction predetermines the professional inclusion in the scientific community of those who speak out these judgments.

We may generally say that Weber was the first to define the communicative boundaries of science through the medium of truth in its interface with values,³ which socializes the scientific community. Later, this *truth/values* interface would be theoretically developed in N. Luhmann's systems–communicative approach⁴ (Luhmann 2017; Antonovskiy 2017; Barash 2017), who was known to distinguish a special structure of attributions (i.e. invariantly ascribing to an Ego and a certain Other these or those sensual experiences or actions in corresponding communicative systems – the economy, politics,

science, art, etc.) in truth and values. Indeed, in the case of communicating truth or in the case of communicating values (despite all contradictions between value-based and truth-based judgments), communications are stylized to *the mutual confirmation of common* sensual experiences.⁵

In this sense, the ‘truth’ generalizes not only propositions but also, almost in line with Durkheim’s axiom,⁶ individuals within the scientific community and excludes those who assert value-based propositions.

Overall, Weber, developing a differentialistic approach, captures an insufficient isolation of German science, in which careers are based upon ‘plutocratic prerequisites’ (Weber 2002, 475). And this substantially differentiates German science from more ‘modern’ North American science, whose autonomy is associated with a young American researcher receiving financial independence. Making a career decision, a young German scientist, on the contrary, has to consider not only object-based motivations (scientific interest, etc.) but also his/her dismal financial prospects, which he/she still cannot bracket out.⁷

In this sense, Weber diagnoses a weak communicative isolation of scientific cognition, still oriented at the communicative relevance of the generalizing *medium of money*, if not when defining the truth value of a proposition, then at least concerning the inclusion into the scientific community. This provides us with a concept of *modern* science as a differentiated enterprise, in which communication depends exclusively on the *object-based* dimension (truth-value propositions about an object of scientific cognition and interest), and these claims to truth do not depend on social and temporal dimensions. Either the official position of a researcher in social hierarchies or the affiliation of a proposition with this or that time (especially, with the sacralized past and reference to its *origo*) cannot and must not serve as a criterion when defining true values.

This concept of modern science as an isolated communication, motivated exclusively by truth, is, obviously, incompatible with the German situation, where ‘*the duration* of holding a position,’ in terms of career opportunities, is somewhat equivalent to actual scientific contributions and achievements and still stipulates ‘the moral right to fill it.’ The temporal dimension of scientific communication in this sense has not yet isolated itself from the object-based and social dimensions. To this end, such ‘unmodern’ German science shows archaic, aristocratic, and guild traits. The authority of time (past endeavors) turns out to be more important than topical achievements and predetermines a position in job hierarchies. Here we may refer to the Russian situation as well.

A true scientific achievement in *modern* science must be exclusively topical, which means momentary, if not instantaneous and immediately outdated.⁸

3. Scientific Cognition in the Temporal Dimension: Is Science Not Art?

Let us consider the problem of specifically scientific time and limitations that the nature of the temporal dimension of scientific communication imposes on the vocation and profession of a scientist. This topic necessarily requires a discussion on the concept of scientific progress.⁹ As opposed to art, there is progress in science, which Weber understands in the Popperian sense as an ‘approximation’ of truth, which, however, also implies the inevitable refusal of old truths and hence, the falsity of any absolute statements relevant at all times. In other words, a work of art as a communicative act belongs to eternity, and no progress can shake the relevance of past achievements, while a scientific accomplishment belongs strictly to a definite point in time and in this sense is doomed to lose topicality. Therefore, this topicality and novelty should be fixed in scientific communication as the main criterion of the scientificity and modernity of this or that proposition. Therefore, science’s tendency to fix the truly scientific contribution of a statement to the development of the system of science renders the temporal dimension more substantial and withdraws relevance from the spatial and objective dimension – a double movement which constitutes the work of science.

The temporal dimension of the development of science tends to level out, in one way or another, the relative authority of a researcher (specialist or dilettante, leader or assistant) and their field of

research (theory or method, basic or applied research) – factors once central for the topicality and authenticity of scientific achievement.

Time is ruthless to all social and object-based horizons and contexts. This particular circumstance has destroyed, according to Weber, those traditional motivational foundations of scientific inquiry (the way to true God, the way to the true good, etc.) that ensured the systemic foundations and the very movement of scientific communication in the past.

From here, we venture to say, proceeds the new semantics of *projected* scientific success. It is modern science that depends on the forms of constraint of research time, *projects*. Long-term fundamental and global theories of creation, whose success could not be evaluated in the short-term and even in the medium-term perspective, sank into oblivion. Funding research within a university as a state-run capitalist enterprise requires a timely completion date and a preset time frame to significantly reduce high risks of the failure to implement a scientific project.

However, there is a paradox here. This maxim of the ‘transitory nature of any scientific statement’ should itself be applied to the Weberian statement about the temporary nature of any scientific truth. If this Weberian statement about the temporality of the judgments of science is true and fair about all scientific judgments, then it must also spread on itself. If it cannot always be true, it should be rejected as false. If this is so, then not all judgments are of a temporary nature, and some of the judgments could retain their truth.

However, Weber does leave himself room to maneuver using a trick. The atemporal meaning of the Weberian statement may be essentially preserved if his – strange for a relativist scientist – claim to absoluteness is associated with a certain ‘quality of art,’ which, according to Weber, is also inherent in scientific cognition.

Thus, the problem of the modern essence of science or what is the same, the essence of modern science, appears to rest in the temporal dimension. Right here is the watershed or boundary between old European science and modern science, and, at the same time, the sphere of scientific statements is specifically separated from value-based propositions within other ‘cultural forms.’

4. The Object-based Dimension of Scientific Cognition: More Knowledge or Less?

The problem of scientific time is the main problem of the essence of a scientific action and a respective vocation. What is the value of science for a scientist? It cannot be determined by an external object-based context, for example, by the success of new equipment as the resultant scientific product: as any object-based achievement, discovery, and description of a scientific object, it is doomed to ‘deconstruction’ in the temporal dimension.

However, in Weber’s opinion, the cumulative understanding of the success of scientific cognition, implying individual enrichment with useful knowledge, is also wide open to criticism with respect to its function as the condition of the sought-for vocation. Note that, *in relation to objects*, we assimilate increasingly ‘less’ knowledge with time, at least, incomparably less than people of traditional society did¹⁰. Yet this does not impose fundamental limitations on scientific cognition. Space is a suitable analogy here: any knowledge is finite but boundless. Its volume is finite, but any determination of this volume indicates a boundary that can be overcome in the course of scientific progress (‘calculation, intellectualization, disenchantment’¹¹). This overcoming of the boundary, i.e. the falsification of all existing knowledge, now *paradoxically* constitutes *the meaning* of modern scientific cognition.

The paradox here follows from Weber’s general idea of meaning that – from the point of view of European culture as a whole – has always implied a certain finiteness in time. Note that the infiniteness of scientific inquiry and, more broadly, culture more generally, oriented toward infinite progress and infinite improvement, require eternity and are meaningful only in eternity (since they are bound to go on forever), which makes pointless any time-limited event and achievement (a project, invention, or discovery) and, more broadly, human life as a limited project and death as the boundary of this life.¹²

Therefore, from the point of view of the object-based dimension of scientific cognition, a scientific product will bring neither more nor final knowledge and, as a consequence, no individual satisfaction; i.e. it lacks a motivational meaning. So, what is the use of pursuing science, if service to it turns out meaningless? Judgments aimed at the search for true being, which, in accordance with the entire Platonic–Pythagorean (old European) tradition, used to motivate Kepler, Galileo, and Newton, are now perceived as *abstraction from being*. What antiquity viewed as a reality is now perceived as pure theory and abstraction and are allegedly unable to capture life in all its everyday *fullness*.

5. The Social Dimension of Scientific Cognition: A Vocation without Recognition?

The specifics of the *object-based* and *temporal* dimensions of old European science, i.e. the deep reality, the world of unchanging truths and things that opened before a scientist and a philosopher predetermined the *social dimension* of science as well. It was believed that there was a specific type of voluntary coercion or, more accurately, a consensus without coercion. That coercion, according to Weber, was implemented through the ‘concept,’ which had been discovered by Plato and Aristotle and had a double function: to provide scientific cognition with a reliable tool and to specify rigid benchmarks for consent following the results of scientific communication. In Weber’s words, *the concept* puts ‘logical screws’ on the opponent so that he cannot come out without admitting this and nothing else as truth.

Seemingly, it was this ‘concept of a concept’ that ensured the success of the axiom of old European scientific tradition: ‘if only one found the right concept of ... whatever, then one could also grasp its true being.’ Hence, the public demand for science, for a social theory of the polity. A genuine social order can be created in line with the right concept of society and the concept of the right political action. With the benefit of our time, we, no doubt, understand that any, especially social, theory remains a self-description of society and that no ultimate ‘right’ theory can be formulated, because the very self-describing society evolves together with the community specializing in such self-descriptions. The axioms of old European society, particularly of rigid truth–concept–being correlation, are the least applicable to contemporary society.

In a second step of the development of ‘old European tradition,’ the experiment was discovered, designed to control the concept by experience. Concepts turned out to be uncontrollable (because their meaning is largely conventional, and a syllogism, as is known, controls only syntax irrespective of the concept’s adequacy in terms of its content). However, the experiment also failed to substantially shake the old European imperative to look for true nature according to the God’s design and to determine the nature of *modern* scientificity.

The specific transformations of the *social dimension* of scientific cognition, associated with science becoming ‘a productive force of society,’ became ‘the disappointing circumstance’ that undermined the old European tradition of seeking true being. Fatal for old European science were some other challenges on the part of the opposing, rationalizing, society, primarily on the part of politics and the economy. Weber (2002, 477) writes, ‘Obviously, the present universities follow the American path in their development. Our large medical and natural-science institutes have been state-run capitalist enterprises since long ago,’ implying all the consequences of ‘the separation of the worker from his means of production.’ (Weber explicitly uses these concepts of Karl Marx.) A rank-and-file scientist is the exploited worker, and the separated ‘means of production’ (workplace, office, library, department) are at the disposal of business and bureaucracy. The director of an institute ‘believes that this institute is “his,” and he manages its affairs.’ This is a familiar situation, isn’t it? We can hardly expect a good performance and motivation from a scientist if now it is ‘human nature’ that is separated from him and can be added to the register of ‘lost illusions.’ The surprising degree to which Weber’s diagnosis-prognosis has come true could be the task of another paper.

6. What Should Criticism of Max Weber Be like Today?

Can we subject Weber's ideas to criticism with the benefit of the modern situation? What would our reaction have been like had his speech been published by a modern author? Most likely, such a work would have been criticized severely for inconsistencies and mistakes. How could such a profound expert in the world religions and nuances of theology put Tertullian's words 'It is to be believed because it is absurd' into St. Augustine's mouth? Neither his students nor editors and numerous colleagues among theologians corrected him, not even during the two years of preparing his lecture for publication. This fact alone speaks volumes about substantial shifts in the character of scientific discourse, primarily about the growing role of criticism, which has to an extent become an end in itself and has largely substituted the original motivations of the scientific search, the loss of which made Max Weber mourn in his lecture.

It is in this critical point where the first paradox of the report arises. Weber formulated his thesis in such a way that any criticism inevitably faces a paradox. If we reject his main thesis concerning the inaccessibility of true being, the ultimate truth, we merely confirm his thesis that any truth lives a relatively short life and one will never manage to formulate the ultimate truth. What we should reject from this key thesis of Weber's following this very thesis will be specified in the conclusions.

Overall, Weber's article abounds with such paradoxical meanings. One of them follows from Weber's neo-Kantian background¹³ and deals with conditions of the possibility of modern science. Here we observe a paradox associated with the obvious incompatibility of two key ideas or, to put it more accurately, distinctions.

6.1. Distinction 1

In the first place, Weber draws a strict demarcation of science by distinguishing between scientific, truth-based statements and value-based judgments. It is this idea of object-based *demarcation between truth and value* that was in demand and was understood as the essence of the work.

6.2. Distinction 2

The second and, in our opinion, deeper idea is the idea of *temporal* demarcation inside science, namely, between previous science, which claimed to reconstruct the Divine Will and true being, science as a prerequisite of human happiness and social welfare, and modern science. Previous science (that of Kepler and Galileo, Copernicus and Newton) could indeed claim a special designated status in society, a special mission of the scientist as a designated observer. This was the vocation of the scientist, or *Beruf*.¹⁴

As opposed to the former, contemporary science is *project-oriented* science first and foremost. The life of true statements, in Weber's opinion, is 10–30 years. In this respect, Weber's predictions have been verified in every detail. Today, it is long-term, universality-claiming 'grand theories' that encounter financial difficulties (especially in social sciences), while three-to five-year projects as a rule find support.¹⁵

An extreme but showy example of such science in the first meaning is Isaac Newton, who supposedly counted himself the Son of God with a special mission.¹⁶ According to Weber, it is this vocation that modern science lacks. The scientist has no mission to crack open the Decree of God any longer since modern science has lost the function present in Protestantism: to associate economic success with the Plan of God relative to a person predestined to salvation, i.e. his true being. In present-day science, this connection has disintegrated. Success in research is valued as such, while true being, good, and the salvation of people are no longer associated with such success.

Yet what motivates researchers under these conditions, what success does the scientist await, what is the function of science? This is the key problem of Weber's lecture. We wonder why it did not dominate in the domestic reception of the work.

As we see, the two key ideas are rather heterogeneous. The first idea is the idea of objectivity, when the object itself plays the role of the *truth-maker* of a judgment in the object-specific thematic dimension of scientific discourse. However, a judgment about the value (of certain laws or definite forms of life or culture) does not contain such a truth-maker.¹⁷ The second idea is the idea of the rejection of truth-corresponding claims of science in the temporal dimension.

In other words, in the object-specific dimension, science differs from all other value-determined forms of culture, surpasses values in its objectiveness and the invariance of statements. In the temporal dimension, science, on the contrary, loses all claims to the invariance and universality of its statements. Something can be true today but not true tomorrow. On the contrary, the statement that some artifact is a work of art is invariant both now and always.¹⁸

The main contradiction of the report is that between the basic distinctions, *the contradiction between the idea of the objectivity of scientific statements and the idea of their temporariness*.

Is it possible to reconcile these ideas? In our opinion, it is possible if we understand this work within Weber's idea of the mission of Protestantism. The key meaning of the work is to explain the success of modern science in the absence of fundamental motivations for studies. To this end, we must understand what modern science means and what modernity in general means.

The two distinctions are linked, in our opinion, by the idea of *double demarcation* of science in time and space: on the one hand, the demarcation from other forms of culture and sociality in a certain social space and, on the other, the demarcation of modern science from its previous outdated forms in social time. To this end, Weber proposes several demarcating signs of the modernity (and, at the same time, conditions of the success) of science, which answer the main question: What is the mission of the scientist in modern society, in which no one is supposed to have a designated mission?

7. The Mission of the Scientist

The general message of the report clearly contradicts the idea of the designated mission of the scientist. This is the riddle of Weber's: why this self-revelation? Why did he demythologize the sacred role of the scientist as a visionary and seer? This undermines the legitimacy of scientific institutions and scientists themselves as spiritual leaders – contemporary sages and prophets. However, Weber demythologizes and disenchant, among other things, the sacred role of the sage and scientist and thus – paradoxically again – confirms his concept of disenchantment and rationalization. He spares no one, including himself, a social scientist. If the scientist disenchant the world, he himself must be disenchanted too. Here Weber performs the same self-referential trick as with criticism. As a result of this deconstruction¹⁹ of the mission of the scientist, there appears the sought-for concept of modern science.²⁰ Let us list indications of this concept.

The only expert in a sphere (for example, a sociologist who analyzes a certain poorly studied age, cultural, religious, or ethnic group relative to its specific views) to an extent guarantees himself that his study will be a success or at least published. The same is true concerning a biologist who analyzes a rare species of organisms or a mathematician specializing in a narrow field. In a highly specific area, publications on an exceptionally specific object will encounter no 'intraspecific' competitors.

What are the limits of such specialization? Will the development of science reach a hypothetical limiting stage (one scientist, one problem)? And what about sciences that have a certain general set of maximally generalized so-called 'eternal problems'? Weber gives no answers to these questions.

Here a compensatory vocation begins to take shape instead of the vocation of the past, to crack open the Divine Institution.

At first sight, we can agree with Weber that *vocation* is something expressed in an outburst of an individual internal feeling. Weber speaks about the experience of fullness, passion, intoxication with science. These feelings are associated, in the first place, with a specialized individual achievement. True, we should probably add that there will be no 'intoxication' if this personal experience is not

recognized in the process of peer review. An achievement should be socially recognized or at least considered by the scientific community.

In this sense, this personal intoxicating experience turns out to be a social feeling; let us call it generalized motivation. This means that if there is any other motivation for scientific activity (money, career, ambitions), the scientist must still behave as if he/she is driven by this internal overwhelming interest and curiosity.

However, it is even more important that this feeling is social in the sense that it is compensatory and is related to the fundamental *temporal* character of science as an institution, as the manufacturer of a specific and, most importantly, perishable product. The above specialization and the practically guaranteed resultant of personal achievement – as a marker of modern science – are designed to compensate the pressure and transience of scientific time. Note that this *neutralizes* Weber's relativism and the constructivism²¹ of scientific truths. Although all fundamental theories come one after another, specialization admits the possibility of the emergence of certain 'buttresses' in the temporal flow of alternating scientific achievements.²²

This is the first paradox that we would like to mention: science is temporary and, at the same time, supratemporal. Specialization resolves this paradox. Science is temporary on global scale and in grand theories, but it is supratemporal or long-term in specialized achievements, at the level of laws, and in theories of the middle range.

The second condition of success for modern science, formulated by Weber, is the paradoxical constellation of opposites: for example, the junction of intuition and prudence, insights and calculations, a personal discovery and a collectively shared substantiation, the roles of amateurs and specialists. This is the paradoxical property of the individual-collective (or social) dimension of scientific communication:²³ science is a collective and, at the same time, individual undertaking. However, this paradox, too, *is* resolved: science is individual in its logic of discovery (insight, intuition) but collective in its logic of substantiation (prudence, calculation).

The third condition of success, formulated by Weber, consists in the fact that modern science is isolated from society but remains a society because, at least at the level of organization, it does not differ substantially from an office or an economic enterprise. Both cases imply organizational demand for entrepreneurial attitude.

Yet, what then distinguishes science from other communities in terms of criteria? Weber believes that science is a special community, where social control is minimized, and social hierarchies and subordinations do not limit the chances for success for some in favor of others. *Enterprise* is the main scientific guide that commands any personal or collective achievement. A personal achievement in science can be demonstrated by people who refrain their personality and devote themselves to enterprise, as if dissolving in the subject of inquiry.

In science, the social dimension, i.e. inclusion in the scientific community, is 'certified,' first, in terms of the *object* and, second, *in time*. In other words, the personal achievement is fixed where the *object* of scientific interest was discussed *first*. The control of behavior, inclusion in the community, and the standing in the scientific community depend on the object-based and temporal dimensions. And while control over the distribution of rewards for scientific achievements is not exclusively social, it is not determined by the standing of the researcher in the hierarchy.

Here we obviously face still another paradox: personality manifests itself where, for the sake of personal success, the scientist has to renounce his personality (for example, some features of his individual perception, idiosyncrasies) and appeal exclusively to the properties of the object under observation.

Therefore, the above meanings or conditions of the possibility of science were supposed to compensate for the lost or illusory vocation of the scientist to disclose truth and being. However, they are insufficiently fundamental and, we would say, somewhat trivial.

The main function of science, however trivial it would sound, follows from its unique ability to supply knowledge to society and discover laws. It is this that should motivate researchers. However, according to Weber, this seemingly obvious *inherent value of knowledge*, the internal value of cognition, independent of utilitarian needs, cannot be proved by scientific means. For example, as

Weber puts it, physics formulates ‘the ultimate laws of cosmic events,’ but we cannot prove whether they are worth this cognition or not. The value of cognition and the value of science are always open to question.

This is the main paradox formulated by Weber: *objective cognition rests on nonobjective grounds*. The main cognitive resource of science – means of empirical testing – cannot be applied to its prerequisite, its own necessity and value for society and man.²⁴

8. Conclusions

So, it is impossible to prove the value of science. However, just in the next breath, Weber does try to prove it. It turns out that the value of science and, at the same time, the vocation of the scientist lie in ensuring *clearness* in determining opposite value-based positions. The scientist is not a ‘leader’ (which demarcates scientific communication from politics²⁵), however, he appears as a ‘judge,’ even though without the right to provide a decisive judgment. Although he is unable to disclose the Plan of God, he occupies something like the hypothetical position of God. He, like an omnipresent observer, observes the world from all value-specific and objective positions and offers humankind the free choice between a value-based (religious, aesthetic) viewpoint and the objective, scientifically oriented view.

A paradox arises again: the particularism of science lies in its universality and worldview inclusivity. Science does not compel anyone to occupy a position but shows the consequences of an action actualizing a worldview or value orientation. For example, if an individual shares a fanatic religious position, this implies consideration of certain consequences in defending his values. Owing to science, the worldview of anyone could be opened.

On the one hand, this view certainly lifts the scientist to an ideologically designated position: he sees more and, hence, is a second-order observer.²⁶ Conceptually, however, this merely somewhat concretizes Weber’s initial thesis: the vocation of science is to make a demarcation between objective and subjective value-based judgments.

On the other hand, a new element is added here. Weber writes that such a demarcation is an expression of moral duty. In other words, this scientific objective judgment turns out to be also a value-based judgment!²⁷ Note that this thesis is of key importance in analyzing Weber’s work. In other words, the distinction between the due and the existing turns out to be due itself and, hence, *nonscientific* in Weber’s understanding. Here we could specify the main point in the criticism of Weber’s position; he did it himself in a sense, though. Let us consider this in more detail.

All judgments are either value-based judgments or truth-based judgements. Yet to which of them should we attribute the judgment that distinguishes them? Weber decides that *it is both*. In our opinion, this is a sound decision, but, it cancels the rigid boundary itself between the two worlds. In this sense, there can be no rigid differentiation into truth-based judgments and value-based ones; yet *any* judgment must be assessed from two contexts: regarding *value-based* rejection/acceptance and *truth-based* refutation/substantiation.

The value-based or ultimate-goal status of a phenomenon that hinders its empirical substantiation can indeed be withdrawn and transferred to another phenomenon. To explain this by an illustration, let us turn to Weber’s example. According to Weber, the judgment on whether laws are worth of cognition is a strictly value-based judgment. In other words, if we consider the knowledge of laws as valuable *per se* (beyond social and technological demand), this value is not substantiated scientifically and cannot be the basis for the vocation of the scientist. However, we can always say that value-based choice and value-based context relate not to *the knowledge of laws* but to something else, something more important. We can *shift the perspective*. The inherent value of knowledge is meaningless until we correlate it with other ultimate goals of scientific interest in, for example, the world and society. (Meaning is always relation to something, reference to something else) (Luhmann 2017).

If we shift the perspective, the problem of the cognition of the laws of the world and society can be substantiated empirically. In this sense, ‘the world and society’ become independent variables, i.e.

values and ultimate goals, and cognition and its value, derivative and empirically justifiable regarding their adequacy as ‘utilitarian’ tools of cognizing the world and society. Hence, their value for society can be proved.

Naturally, another question arises here: Are the world and society worthy of existence, are they valuable as such? Yet here, again, we use this shift of the perspective and state accordingly that it is meaningless to pose the question about the inherent value of the world and society. Let us look for other independent variables; for example, man, progress, happiness, or Divine Providence can act as such conditionally ultimate goals and guides for the question about the meaning of the existence of the world and society.

It follows that the worlds of the existing and the due are not mutually inaccessible because transitions between them are possible. Any judgment can be considered as both a value-based judgment and an empirically justifiable judgment in the perspective of another goal, as a derivative from another ultimate value.

The same strategy of the ‘translation of meaning’ or the shift of the perspective can be used in another example of Weber’s. For instance, according to Weber, the question of the preservation of life is the last value and cannot be solved rationally. Some think that life is worthy in any case, while others believe that euthanasia is admissible *in some cases*. Can issues of bioethics be substantiated empirically by postponing final meanings or ‘ultimate goals’? It appears that life is unconditional in some cases (if it meets the notion of *happy, without suffering*, etc.). In the latter case, the value-based and ultimate-goal character can be associated not with life itself but with some of its characteristics: identity or authenticity, happiness, the absence of sufferings, and so on. If these phenomena receive a positive value-based load and assessment, the value of such a life can be substantiated empirically and rationally. The ultimate goal and the final value can be ‘transferred’ from life as such to happy life without suffering.

Notes

1. See relatively recent empirical research on the structural and motivational factors of the production of scientific knowledge, see Erickson (2002, 33–55).
2. On the current academic perspectives of a young American scientist in the context of Weber’s overall understanding of science, see Hackett (1990, 241–279).
3. Today, this distinction is usually interpreted in two different, but related contexts: in the context of the discussion of how the evolution of cultural and historical values influences social sciences; and also in the framework of the ‘metanormative’ discussion of how moral and political attitudes are justified sociologically (Caffa 1998).
4. See also alternative attempts at a system-theoretical interpretation of the Weberian approach to science: (Goddard 1973, 1–22).
5. Unlike, say, politics, where the action of a certain Other causes (subordinates) the action of a certain Ego irrespective of his sensual experiences. Or, unlike art, where the action of the Other causes a ‘pure’ (activity-nonrelated) sensual experiences of a certain Ego. Or, unlike love and friendship, where the Ego, by its actions, tries to cause emotions in a certain Other.
6. According to which ‘classifications of things reproduce classifications of humans.’
7. ‘For it is extremely hazardous for a young scholar without funds to expose himself to the conditions of the academic career.’ An American scientist, on the contrary, ‘begins with a seemingly secure position, for he draws a fixed salary’ (Weber 2002).
8. ‘Every one of us knows that what he has done in science will go out of date ... This is the fate; moreover, this is the essence of scientific work, ... and this is exactly its specific difference from all other elements of culture’ (Weber 2017).
9. ‘The fate [of a scientific work] differs deeply from the fate of artistic endeavor. Scientific work is plaited into the movement of progress. On the contrary, in this sense, no progress exists in the field of art’ (Weber 2017).
10. ‘... almost every one of them [colleagues of political economy] will hold a different answer in readiness to the question: How does it happen that one can buy something for money? The savage knows what he does in order to get his daily food and which institutions serve him in this pursuit. The increasing intellectualization and rationalization do not, therefore, indicate increased and general knowledge of the conditions under which one lives’ (Weber 2017).

11. See an interesting attempt to consider the Weberian idea of disenchanting as a false narrative. 'Even the human sciences have been more enchanted than is commonly supposed,' the author believes (Josephson-Storm 2017, 269–301).
12. 'Abraham, or some peasant of the past, died "old and satiated with life," because for him there remained no puzzles he might wish to solve . . . Whereas civilized man, placed in the midst of the continuous enrichment of culture by ideas, knowledge, and problems, may become "tired of life" but not "satiated with life." . . . And because death is meaningless, civilized life as such is meaningless; by its very "progressiveness" it gives death the imprint of meaningfulness. Throughout his late novels one meets with this thought as the keynote of the Tolstoian art'. (Weber 2017).
13. On the reaction of neo-Kantians of the Baden School to this speech, see Antonovski and Barash (2018).
14. We disagree with I.T. Kasavin's opinion (see his article in this issue) that *Beruf* is in the first place a profession and only secondly, a vocation. In our opinion, the main connotation of this term in the report is closer to the notion of the *mission of the scientist*, a vocation, or, literally, *a call*, to which a researcher must respond one way or another. When a scientist is summoned to the rostrum, he responds to this formalized 'call' (*Ruf*). Note that Weber said quite little about *profession* (and only in the beginning of the article) and this part has not been translated into Russian because it seemed insignificant or, maybe, too complimentary of the United States.
15. In this regard, an interesting interpretation of Weber's work was proposed (Gumbrecht 2012, 153–154). According to this approach, Weber fixes two weakly linked goals of science: one practical and the second fundamentally innovative. It is with the latter goal that the desired genuine motivation of the scientist is related, while the university imposes on the researcher mainly practical goals. In this sense, this Weber Manifesto turns out to be a (quite modern) call for the return of science to its true fundamental research task.
16. His rejection of trinitarianism and the divinity of the Son of God speaks in favor of this version. Newton did not know his father and lived with his stepfather; he tried to calculate the date of the Second Coming to find out whether he was the Messiah charged with communicating the Logos, the Word of God (= the laws of motion), to people.
17. True, analytic philosophy of mind speaks about a wish-maker, i.e. the producer of a wish or need, as a 'substitute' of the object in a value-based judgment.
18. Note that this understanding of the status of a work of art contradicts the general relativistic pathos relative to values of cultures. What some see as a work of art can be a mere black square for others. It is not quite clear why Weber abandons his universal relativism here.
19. Despite Weber's seeming radicalism in changing his view of science, some researchers believe that this Weberian approach is a continuation of the idea of the classical German university (Oevermann 2005, 15–49), which was created by Wilhelm von Humboldt and Friedrich Schleiermacher (Schleiermacher 2018, 215–235).
20. On discussions about the concept of modern science in Russia, see Lektorskii (2013).
21. On such social constructivism, see Lektorskii (2008).
22. As an illustration, let us recall Feigl's words about Weber's-type temporal relativism, which he himself rejects in his thesis about specialization. 'I am not impressed with such *purely speculative* possibilities which the opponents of *empiricism indefatigably keep inventing with shockingly abstruse supersophistication!* Thousands of physical or chemical constants figure in . . . essentially unchanged . . . empirical laws. The refraction indices of countless transparent substances (such as the various types of glass, quartz, water, alcohol, etc., etc.), the specific weights, specific heats, thermal and electric conductivities of myriads of substances . . . are all intact and are all needed for the testing of higher-level theories' (Feigl 1974).
23. For more detail on the notion of dimensions of scientific communication, see (Antonovskiy 2017; Kasavin 2014).
24. However, below, in comparing science and theology, Weber, somewhat illogically, reproves theology this time for the same drawback, the inability to reflect on its prerequisites, distinguishing thus theology and science.
25. For more detail about the relation of scientific and political-legal normativity, see (Kasavin 2017; Barash 2017; Ascher and Roberts 2015).
26. About practical implementation, see (Antonovskiy 2017, 2017b).
27. This area of judgments can be characterized as an interactive zone of a kind (Kasavin 2014).

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