

Velimir Chlebnikov in time and space

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Он меня проткнул, как рыбёшку, острогой своей мысли

Velimir CHLEBNIKOV

I.

Viktor Vladimirovič Chlebnikovs (the name Velimir he adopted later) father was an ornithologist and his mother a historian, which may have contributed to his abiding interest for both natural science and history. In **1903** he was admitted to the University of Kazan' where he began to study mathematics as a major subject. Despite his attraction to first symbolist and then futurist poetry, Chlebnikov never broke with his scientific background, and his poetry comprises a peculiar mixture of miscellaneous elements, of which mathematics must be considered one of the most fundamental. It became the principal implement in his attempts to explain the meaning of the historical process.

Chlebnikov believed that he had discovered mathematical connections in time between historical events, understanding these to have taken place solely as the effect of a specific lapse in time which in turn had generated a change in space. He understood the world to be constructed around rays of time, time rays which penetrate and illuminate everything which exists in space. Accordingly, the regular oscillation in the course of the time rays is reflected in a parallel oscillation in historical events, particularly apparent in the observation of chains of events containing war, revolution or other conclusive turning points in the course of history.

The search for the laws of time became almost an obsession to Chlebnikov, and for some periods he devoted himself entirely to finding examples of historical events, the years and dates of which

he tried by means of assiduous calculations to connect with other, similar points in history. He seems to have regarded this work as his real task in life. Therefore, it is strange that this side of Chleb-nikov has not attracted more attention, but been pushed into the background in favour of other aspects of his poetical creation.

2.

Если есть два понятия близнеца, то это место и время (Chleb-nikov 1972, 437). So reads the introduction to Velimir Chlebnikov's work *Vremja - mera mira*, published in 1916. His point is that space and time are of equal importance and deserve to be studied with equal care, but that so far science has ignored time in favour of space. In this matter, Chlebnikov considered himself a pioneer, a scientist, whose task was to discover and delineate laws and mechanisms still unknown to mankind. At this point he had by no means decided on the application of these laws, neither was he trying to oppose what could be called 'space dominance'—of this we shall see examples only later.

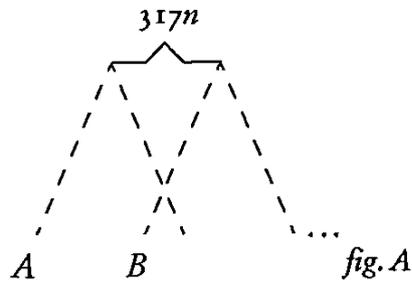
The event that triggered Chlebnikov's decision to discover what controls destinies in time was the Russian defeat in the naval battle at Tsushima during the war against Japan in 1905. In his great work *Doski sud'by*, he recalls his reaction to the bad news (1972, 472): Первое решение искать законов времени явилось на другой день после Цусимы ... Я хотел найти оправдание смертям. His original task was thus to find an answer to the question as to *why* so many had to die, to find some kind of justification for this tragedy. Of relevance is the fact that in his youth Chlebnikov was an eager precursor of panslavism, and he adopted a rather aggressive attitude not least towards the German enemy. There is in his earlier works a distinct tone of militarism and even a glorification of war. According to Raymond Cooke it was due to the fact that war this time was being made in the East that Chlebnikov was able to subdue his nationalist feelings and see instead the horrors of what was going on. Chlebnikov was fascinated by and attracted to the Orient and its history and culture, and was possibly unable to take such offence at the Japanese as at the Germans, trying instead to put the blame on some higher order. And although all wars are made in and for space, he chose to seek the explanation in time.

By comparing the dates when different battles had taken place, Chlebnikov hoped to find connections that would explain when and why wars break out and also their outcome. One of the first published works to contain such calculations and comparisons of war dates was *Bitvy 1915-1917 g.g. Novoe učenie o vojne*. Chlebnikov concentrated here on compiling dates of hundreds of different naval battles, and he demonstrates that they had all taken place either with a time interval of 317 years, or of larger units divisible by 317.

Chlebnikov began to interpret time as something material, consisting of measurable rays which pass through the spatial world in regular waves of 317 years. Exactly how he worked out this unit is demonstrated by a number of complicated formulae; basically, it has to do with the connection between the speed of light and the various speeds with which the earth rotates around the sun. According to Chlebnikov, this figure works as a unit of measurement for the constant oscillation in the historical destiny of nations and peoples as well as in the thoughts and actions of individuals, with the distinction that in the former case it is a matter of years and in the latter of days. In other words, the soul of a human is related to that of humanity in the same way as a day is to a year.

With examples from literary and real persons⁵ lives, Chlebnikov proves how the law of 317 stakes out marked transitions between different phases in life. Accordingly, the human soul can be regarded as a 'fantastic clockwork'. The number 317 is essential for Chlebnikov's ideas about time, and it recurs in all of his works on this subject, at least from this earlier period. In 1915 he went as far as to found the so called '317 society'. In *Vremja - mera mira* all of his observations seem to lead to the magic number 317 or to its multiples, i.e. 317 x 1,2,3... This work bears witness to the enormous research that Chlebnikov had made in order to explain to humanity under what conditions it lives on Earth. At the same time it shows to what far-fetched conclusions he was prepared to go in order to substantiate his own theories. No doubt, Chlebnikov first discovered a few traces pointing to 317 and then deliberately searched for those historical facts which, by means of all sorts of calculations, would prove the correctness of his inferences.

Another aspect to which Chlebnikov devoted his attention is the so-called peaks in peoples' or empires' military history. Here he had found that a comparison of the dates when two different empires had reached their climax of power often reveals an interval of precisely 317« years (for my simplified illustration of this phenomenon, see fig. A. A measuring-rod



with markings of 317 years can, naturally, only be used to measure fundamental movements in world history. In modern history, with its sudden turns and slides of balance, it might be too coarse and clumsy. To look deeper into the life of nations and compare events more closely within a shorter period of time, finer

instruments will be needed. Here we have resort to the unit 317 days. This unit serves its purpose in the measuring of stages in the life of individuals, but Chlebnikov also demonstrates its applicability to social development.

3.

The concept of 'the law of the seesaw' is mentioned for the first time in a poem from 1912 (1986, 76):

*Закон качелей велит
Иметь обувь то широкую, то узкую.
Времени то ночью, то днём,
А владыками земли быть то носорогу, то человеку.*

The 'Law of the seesaw' was Chlebnikov's name for a phenomenon which he thought he had discovered in his study of historical dates, and which would turn out to be fundamental for his ideas about time. He discerned in history a distinct pattern, according to which everything that existed was apparently subject to a regular oscillation between two antipodal states. This concerned the development of nations and peoples, their rise and fall, as well as the destinies of ordinary individuals. This pattern was discerned with particular clarity in the study of war, where victories and defeats seemed to occur in turns and at regular intervals. Although Chlebnikov was later to modify his general time laws, the principle of the

law of the seesaw (later also called 'the law of retribution') would remain constant. What is important is that for Chlebnikov this law actually came to represent the sought-after explanation to war and other atrocities in history. When the pendulum or seesaw swings back, a kind of historical justice sets in, a legitimate balance in the conditions of power. Accordingly, war seems to be a necessary evil.

As an effect of the law of the seesaw, history swings back and forth in a constantly re- curring movement, where + is changed for - only to revert - to + again. What we see is thus not classical, linear evolution, with a perpetually



straight continuation of the chain of events, but rather something resembling a circular, or sacral, conception of time. However, in a couple of passages, *inter alia* in 'Deti vydry', Chlebnikov writes instead about a snakelike movement which can be associated with the seesaw mechanism. My interpretation of Chlebnikov's basic conception of time and space can be illustrated by *fig. B*, where one line represents time and the other space. When time after a fixed interval turns aside and changes direction, it crosses the space line and makes the course of space turn in the same direction. The 'pendulum' has now swung and the events in space now move in the opposite direction—they become counter-reactions in the historical process.

By way of an example as to how the law of the seesaw works, we return to the Russo-Japanese war, where the final Russian defeat is interpreted as a reaction to 350 years of eastward expansion. The sequence of events took place not only on a diminished scale (1 . "365), but also with the opposite result. Chlebnikov believed that he had found a pattern whereby the years of Russian crossings of the great rivers could be connected with the dates of major defeats in battles with the Japanese. And, on the contrary, the conquest of the Siberian peninsulas could be connected with victories from the same war. The fact that Siberia has many rivers but few peninsulas was thus decisive for the outcome of the 1904-5 war. The human relations of power have no influence, the destinies of the Russian and Japanese soldiers are here in the hands of something more

powerful than man himself—the natural force that lurks behind the conflict between land and sea. Japan's victory can be understood as the revenge of the sea, following the mainland people's defiance of the hostile rivers.

4.

Thus Chlebnikov became a scientist who tried to find an answer to the question as to what causes war and decides its outcome. His conclusions led to an elevation of war into a natural force which obeys the iron laws of time, and over which man has no control. Insight amounted to acceptance, and war is understood as a necessary instrument in maintaining balance and harmony in the world. If a certain people has suffered a defeat, then consolation lies in the knowledge that sooner or later the pendulum will swing back.

A decisive breach in Chlebnikov's attitude towards war, Fate and those laws that he considered himself to have discovered came about in April **1916** when he was forced to join up with an infantry regiment at Caricyn. Military life was a severe chock and for a long time he tried in vain to be discharged or transferred. Personal letters as well as poems from this time bear witness to his suffering in the army. If earlier Chlebnikov had at the most called in question the meaning of war, the traumatic experiences in the army made him finally change his attitude and he began openly to agitate against war and the militarist regime.

Many of the poems that he wrote during this period were later to be compiled in a *sverchpovest'* called 'Vojna v myselovke'. The title refers directly to his changed attitude towards all sorts of war, and in the poems we meet a Chlebnikov who actively fights not only against war but also against Fate itself. His main task was now to outwit and ensnare Fate and thus prevent it from starting wars. This was an activity of interference in contradiction to Chlebnikov's earlier ideas about the law of the seesaw as vouching for universal balance and justice.

But what does all of this actually mean ? What was it that Chlebnikov wanted to achieve by his aggressive proclamations ? Since he considered the laws of time to be all-embracing and constantly in effect, it could hardly be a matter of stopping them by force. This may be interpreted as an intellectual battle, in which the one who is

able to foresee the next move brings the course of events under control. To get to know your enemy is to defeat or catch him, and thus the real aim becomes knowledge. And if what used to be unavoidable now becomes avoidable, the question is whether there exists any Fate any longer. What man calls 'Fate' is perhaps nothing other than the effect of those processes that are governed by the hitherto unknown laws of time ? If Chlebnikov had so far mapped out connections in time, we now see a definite purpose for this mapping: to give people the possibility to rule over their lives, avoiding the repeated atrocities of so-called Fate. If his calculations were all based on events in the past, his ultimate aim was to be able to use them to anticipate the future.

Chlebnikov's declaration of war against war and suffering can be considered as the seed of the theories that were to occupy his mind a few years later. The next stage of his view of time is initiated at the turn of the decade, when he wrote his great work *Doski sud'by*. Apart from his fundamental modification of the numbers around which the laws of time were thought to be constructed, he now explains more clearly the necessity of knowing about the principles that settle the course of history. Fate is not to be conquered but understood. In the introduction to *Doski sud'by*, he compares destiny to the river Volga (1972, 471):

Судьба Волги дает уроки судьбознанию.

День измерения русла Волги стал днем ее покорения, завоевания силой паруса и весла, сдача Волги человеку. Промеры судьбы и изучение ее опасных мест должно сделать судьбоплавание настолько же легким и спокойным делом, насколько плавание по Волге стало легким и безопасным ремеслом после того, как сотни буйнов алыми и зелеными огнями отметили опасные места, камни, отмели и перекаты речного дна. Так же можно изучать трещины и сдвиги во времени.

Time and space can be conceived as two parallel lines which meet at regular intervals creating a series of marked spots, like banks in the middle of the tide—and these are the 'dangerous places'. Thus Chlebnikov is like a pilot who has written a special chart in order to lead humanity past those dangerous places where the laws of time, according to a recurrent pattern, indicate a large probability of war or other disasters. History thus becomes less dangerous to travel through.

What we see is an evolution where Chlebnikov has proceeded from an initial consideration of wars as something positive and strengthening for the Slavic sense of unity, to an 'objective' investigation into the laws of time and the relationship between time and space, then to a violent reaction against the horrors that result from that very relationship, and finally to a more neutral attempt to explain the character of Fate, in order to avoid fatal collisions. What is of importance here is that Chlebnikov has started to consider the existence of the laws and mechanisms of time as an opportunity rather than an evil that causes suffering in the world. The knowledge of the time laws is the key to a dynamic evolution which will lead mankind into the future Utopia with the speed of a thought.

5.

Doski sud'by is the printed result of Chlebnikov's enormous work on gathering historical facts and executing all sorts of calculations that would lead to the final survey of the laws of time. It must be considered an indispensable key to essential parts of Chlebnikov's poetry, and indisputably his most important work on time and space.

If, at the time of the writing of *Vremja - mera mira*, Chlebnikov merely expressed a wish to sketch a few of its features, Time's face now appears with significantly more distinct outlines. The time laws that he presents in *Doski sud'by* are at first sight completely different from all his previous theories. The fundamental principle that they lean on consists of just two numbers: 2 and 3. But by means of the dynamics of raising them in power, this principle connects several of those 'magic numbers' whose historical significance and functions he had observed through the years. 3^5 -i, for example, gives us 242, which is one of the corner-stones in the article 'V mire cifr'. 1053, which also appears in the same article, can be written as: $3^{(3+3)}+3^{(3+2)}+3^{(3+1)}$. And the unit 365, from which is derived the well-known 317, is nothing but the line $3^5+3^4+3^3+3^2+3^1+3^0+1$.

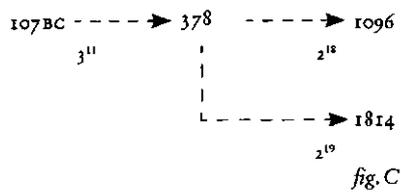
For Chlebnikov, the discovery of this law meant that all the pieces of the puzzle fitted together. The twos and threes were the building blocks of the universe and the possibility of their mutual multiplications the very essence of time. The basic principle behind the classification of the units of time measurement into twos and

threes also goes back to many of Chlebnikov's earlier conclusions about the influence of time on the oscillation of history. In short, the number 2^n constitutes the basis of those time spaces that separate historical and other events of a similar kind, while time spaces that are based on 3^n separate events that seem contrary or are reactions to one another. What is concealed behind the number 3 is in fact a development of the idea of the 'law of the seesaw'. 3^n days after an event has taken place or started, something new happens : a negating process is activated in which plus is changed to minus, and the two events will soon be like 'two trains, proceeding in opposite directions along the same track' (Chlebnikov 1972, 476). This metaphor might, however, be misleading, since you may ask yourself whether the trains will crash into each other reducing the force to zero. Further on Chlebnikov writes that the 'ray' of time after 3^n makes a turn in two right angles, as in a blind alley. The latter better illustrates the idea that a motion in itself contains the counter-force which sooner or later will move it into reverse. What we see are not crashes but oscillations back and forth in space.

A theme which occurs in *Vremja - mera mira* as well as in *Doski sud'by* is of the rise and fall of states and peoples. In the former text, Chlebnikov had concentrated on the time distance between those points in history where different empires had stood at the peak of their development. Now, in *Doski sud'by*, he compares those points where *one* empire was in, as he calls it, zenith and nadir, and demonstrates how the two dates are related to each other with a chronological connection based on 3^n . But since it is always a force and a counter-force that act in history, should not the difference in time between the zenith and nadir of one state be the same as the difference between the peaks of two states ? At least, should this not be the case when the two states make war with one another and act as each other's counter-forces? The Greek loss of Constantinople, for example, was a splendid victory for the Turks. On the other hand, 3^n can never make 317 which is why the dates in *Vremja - mera mira* and *Doski sud'by* do not coincide. An essential difference is that the 'peaks' considered in the 1916 article are related to states or peoples that are not mutually engaged, but separated from each other in time as well as in space.¹

¹ We have such pairs as Japan in 665 and Germany 1871, or Arabs 711 and Normans 1028. But both of the theories are still examples of how the law of the seesaw works in history.

In *Vremja - mera mira* there had been a certain systematisation where events that had occurred at intervals of 317 years or days in some way linked to each other to form networks of chronological connections. This is more rare in *Doski sud'hy* where we often see examples only in pairs. There are, however, in this work too a few pieces of evidence to the effect that several events can be repeated negations of only one initial event. For instance, in the history of the German people, we find a chain of years, which is given as *fig. C* below in a slightly simplified version.



We have here an initial date, a reaction to this, consequently based on 3^n , and then two recurrences or intensifications of the first reaction. Since there is no mathematical connection between 2^n and 3^n , we are dealing with two laws that are completely independent of each other. Perhaps they can be applied to historical facts

and even combined in chains such as these, but to predict the future, which was Chlebnikov's aim, would prove difficult, given that it is impossible to know which one of these laws should be applied in any single case. The sudden change of laws (that is, the base of the power numbers) between the different links may give us extremely arbitrary results.

If in *Vremja — mera mira* the time wave 317 could be either days or years, depending on the context, then with the new units of measurement, 2^n and 3^n , we have no such distinction, it is always a matter of days. The only thing that tells greater and smaller events apart is the size of the exponent. Chlebnikov notes that the larger wave of time is often based on twos or threes with the exponent **11**, while the smaller often has the exponent 5. As examples of events that are related to the individual 3^5 wave he gives us, for instance, the formation of a Bolshevik government on 10/11 1917, 3^5 after the formation of the Miljukov-Kerenskij government; the murder of Garfield, 3^5 after his installation as president; the murder of Min, 3^5 after he had beaten off an uprising in Moscow, etc. What is im-

portant here is that it is not the actual persons that cause oscillations in history, everything is merely a result of the game of numbers. Concerning the last example, Chlebnikov writes (1972, 476) : Карающей рукой Коноплянниковой или сама судьба дергала собачку браунинга во время выстрела. In other words, Fate itself is the leading character in history, while individuals are mere jumping-jacks dangling in its tight threads. The law of the seesaw (the law of retribution) rules our lives with a hand of iron (1972, 475):

Поступок и наказание, дело и возмездие.
 Если в первую точку умирает жертва.
 Через 3⁵ умирает убийца.

But even if the commitment of a murder, for instance, is already inscribed in the statute-book of time, is not the physical murderer still somehow responsible for actually committing the deed? In other words, what is the connection between 'Tate' and the individual ? According to Chlebnikov, it appears as if the personal will is nothing but a result of the wave movements of time. People are themselves, under the influence of the oscillation of time, turned into waves (1972, 500): Мы люди подобны волнам, которых бросает друг на друга железный закон отношения времени к месту. In about the same way as in 'Zakon pokolenij', where he explains that a thinker must feel the waves of his ancestors and their ideas, the size of the time waves should here be understood as being reflected in the soul of the chosen individual by whipping up feelings of hate or desire for vengeance—or on the contrary, of suddenly flaring courage and will.

Chlebnikov thought that while man had always tried to grasp the essence of time, he had made a fatal mistake in trying to express his understanding in words. Chlebnikov's method differs from that of his predecessors in that he writes or paints with numbers assuming them to be more precise (1972, 473):

На полотно ложится не слово, а точное число, в качестве художественного мазка, живописующего лицо времени.

Таким образом в древнем занятии времямаза произошел некоторый сдвиг.

Chlebnikov also considered the law of retribution (3") to have had great importance in many beliefs and religions. 'The book of Moses and the entire Koran is very probably contained in the iron force of this equation' he writes. His point is that people of old times tried to explain events in space—disasters as well as miracles—by putting the responsibility of them in the hands of one or several gods, whose will permeated and seemingly controlled the world. In the same way, the religious scriptures are nothing but a verbal attempt to explain the mysterious essence of time. But, as we all know, that essence is just a game of numbers presenting themselves as regular curves of time which in their turn create just the same curves or oscillations in space. Chlebnikov's conclusion is that the gods of ancient times, seen in the light of mathematics, have turned out just to be simple numbers. We can observe this especially clearly in the powerful exponent which, metaphorically, can be thought of as raised to the skies in comparison with the more 'earthly' base. Chlebnikov states (1972,494):

Ясно, что эти небеса совпадают с действием возведения в степень чисел времени и что жильцы этих небес, показатели степени и есть боги древних.

The difference between, for example, the Koran and a mathematical formula is of course considerable. Но сколько сберегается чернил! Как отдыхает чернильница! (1972, 475). Saving ink may certainly be an advantage (!), but what remains for literature if everything can be explained in simple and cold formulae ? Although Chlebnikov interpreted time as constituted by soulless numbers, his descriptions of it are not so much mathematical as highly poetical. His 'ink rationalism' is a witty exaggeration. *Doski sud'by* is full of expressive metaphors, and I would venture to say that it could be regarded primarily as a poetical rather than a scientific or even pseudo-scientific work. For where else can you find descriptions of a couple of numbers such as the following (1972, 509)?

Закономерно уходящие показатели своими головками кивают как ковыль, как верхушки трав и волнуются ржаными полями чисел, какой-то рожью троек.

Characteristic for Chlebnikov, in other works as well, is precisely his marvellous ability to turn science into poetry and vice versa.

As for the time wave 2", it indicates the number of days that pass between events of a similar kind, two links in a straight chain of development, or two events, where the latter is an intensification of the former. The examples of 2" in *Doski sud'by* are substantially fewer than those of 3", but this can be explained by the fact that Chlebnikov saw in history above all the constant oscillation back and forth. Courses of events based on the number 3 therefore become more frequent than those based on the number 2; 3" constitutes a more fundamental unit of measurement.

The power of the time equation may be compared to a tree, where the stem represents the fixed base (2 or 3), and the crown is the lively and limitless exponent. When it comes to the space equation the relationship is, as we know, exactly the contrary—the base can here be extended to infinity, while the exponent can only be 2 or 3, corresponding to area and volume respectively. But what we see in *Doski sud'by* is a quantitative connection between the two, where oscillation in space is fully determined by the number of days that pass. Chlebnikov calls the discovery of this connection the first bridge that unites time and space.

The fact that the flexibility of the exponent and of the base is the opposite in measuring time and space respectively, and that the fixed part in both cases is limited to the numbers 2 and 3 leads to a reversal in the mathematical relationship between them. Chlebnikov's metaphors may be tedious but what is important here is the question as to whether time and space exist at all, at least as independent concepts, or whether they are merely reflected images of one and the same formula. Chlebnikov writes (1972, 478):

Как-то радостно думалось, что по существу нет ни времени ни пространства, а есть два разных счета, два ската одной крыши, два пути по-одному зданию чисел.

The conclusion that time and space do not exist must have been very tempting for him, since it goes hand in hand with his entire conception of the world, with all of his Utopian ideas of the future. What he—and other futurists—strove for was precisely to break down all static concepts into their constituents, to crush them into atoms and with these parts to build something new and more lively, an existence in the fourth dimension. What we see in above all his *sverchpovesti* is that time and space are not watertight concepts;

both objects and people alike appear to be floating around in a kind of limitless time cosmos. In space all times exist contemporaneously; there is no chronology, but loose fragments mix freely with one another and merge into a thronging unity of various epochs and places. In Chlebnikov's equations, both time and space become extremely flexible. The second question that he frames, having observed the reverse connection between time and space, is whether time actually is space turned upside down. The thought is quite dizzying.

What we also see in *Doski sud'by* is an apparent striving for simplification, to find the lowest common denominator for all the building pieces of existence. Such lines as $3^5+3^4+3^3+3^2+3^1+3^0+1 = 365$ are indisputably beautiful and the attaining of beauty and elegance in the equations might well have been an aim in itself. I believe that the purely aesthetic worth of such formulae had a significant effect on the power that Chlebnikov ascribed to them. In a troubled and often abstruse environment, he was able to find order and systématisation, at least in the world of numbers. Specific for 2 and 3 is that they are the lowest existing odd and even numbers (except for the number 1, here improductive). Owing to logarithmic dynamics, these small units can be the basis of inexhaustible series of numbers. By means of the game of numbers, that is, you can create enormous volumes out of a minimal base. Chlebnikov saw in these simple and minimal units the foundation upon which the entire universe is built. A numerical explanation of everything in existence would certainly be very practical and rational. This is the principle which Chlebnikov refers to as 'the law of least possible ink consumption'. It is all about finding the answers to the mystery of life in symmetrical formulae and numbers. In several respects, Chlebnikov was much influenced by Oriental philosophy, to which he refers here, calling the inclination for the lowest existing numbers 'a kind of nirvana—the teachings of Buddha in the world of numbers'. The cardinal numbers 1, 2 and 3 are referred to as 'numbers, surrounding the world of nothing' (Chlebnikov 1972, 478), which, of course, hints at the Buddhist striving for non-existence. What is meant is that they are the three numbers (together with their negations -1, -2 and -3) that are closest to 0 (nought). 0 can therefore be looked upon as the very purpose of existence—it is

the point where plus and minus equalise one another, where there is full balance, and where all suffering in the world ceases. It is no longer possible to execute any calculations, since time and space have been dissolved or ceased to exist.²

6.

It is conventional to look upon history as a collection of events seen as reactions to or recurrences of one another. It is the events which are understood to propel time forward and not vice versa.³ Chlebnikov's interpretation of history reverses the process; he believes that different events are related to one another only on a time plane. The pendulum that oscillates back and forth through history has not been set in motion by what occurs in space; it merely follows the mathematical laws of time. The important conclusion that he draws is as follows (1972, 494): не события управляют временами, но времена управляют событиями.

Although his poetry might at first sight seem chaotic and unstructured, Chlebnikov strove to find order and system in life and in history. The discovery of the laws of time gave him an explanation to history, a meaning behind its atrocities. However, his intention was first and foremost to find a way to predict the future.⁴ In *Doski sud'by* Chlebnikov writes about the 'dangerous places', where a pattern in time indicates that a change may occur in space. The question is then whether we can understand any date involving intermultiplication of two and three as constituting a danger or risk. And again the date when an event actually begins is not always obvious. These are examples of the problems that make Chlebnikov's theories difficult to use for what they were intended for.

² Chlebnikov went further to apply the laws of time on an astronomical level.

³ Events or essential changes in space have even determined denominations for entire ages in time, such as the Bronze Age, the Age of Enlightenment, or why not the Soviet Era.

⁴ In an often quoted example, he succeeded in creating a historical chain of events that pointed at a conclusive change of power in Russia in 1917, and in this case he turned out to be right. But as to the rest, such prophecies are conspicuous by their absence, and Chlebnikov appears to have left to future generations the practical application of the theories that he had worked out.

My opinion that the 'time scientist' Chlebnikov has to too great an extent been pushed into the background in favour of the 'linguistic innovator' holds good. But it must be said that these two aspects of his life's work were at heart both directed to the same end. Chlebnikov wished to release man's linguistic shackles as well as those of the so-called historical necessity—all for the purpose of attaining a unification of all mankind. His mathematical calculations as well as his extra-logical universal language, which breaks down all communicative barriers, actually pointed out one thing—that cosmos is a unity and that the division of mankind into separate races and nations is a destructive evil. Concerning the poet's 'star language' his alter ego Zangezi says (Chlebnikov 1986, 481): Этот язык объединит некогда, может быть, скопо! In the same way, Chlebnikov's mapping of those connections in time that were assumed to govern history was ultimately an attempt to vanquish time, to evade its snare, and thereby also to vanquish both war and death itself. In 'Naša osnova' he writes (1986, 632):

По мере того, как обнажаются лучи судьбы, исчезает понятие народов и государств и остается единое человечество, все точки которого закономерно связаны.

His vision was that of a unified world, where people live in total harmony, elevated above time as well as space, and where transient concepts such as war and death have ceased to exist.

Velimir Chlebnikov died young, as early as 1922, and during the Soviet period he was never accepted, either as a thinker or as a poet. His works on time were published in small editions during his lifetime and after his death they soon fell into oblivion. In the edition of his complete works which was published in Western Germany in 1968-72 some of them were inserted in the third volume. But the text is reproduced in facsimile and typographically hard to read; the text of *Doski sud'by* in particular is so small that the tiny exponents in the mathematical formulae are at times impossible to discern. If Chlebnikov's point was that time was neglected in comparison with space then his works and ideas were definitely neglected in comparison with his more famous linguistic experiments and aggressively futurist manifestos. And that despite the fact that we are dealing with possibly the most essential works in his entire authorship.

The fact that Chlebnikov's theories of time have been forgotten does not make them less fascinating. It is time to take them seriously, at least as far as Chlebnikov as thinker is concerned. But we might go further and test them on the stormy history that we have witnessed from the October revolution in 1917 to Boris Yeltsin's assumption of power in 1991. Accordingly, the number of days of the Soviet Era, when divided by 85, turns out to be almost precisely 317 days! When we consider the thoughts and apocalypses evoked in connection with the beginning of a new millenium, we might find Chlebnikov's theories to be more relevant than ever.

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