G. Buccellati

THE QUESTION OF DIGITAL THOUGHT[1]

1. Historical perspective

When first introduced, writing had an incalculable perceptual impact. By providing an *extra-somatic embodiment of intellectual constructs*, writing made it possible to confront these constructs as something projected outside our mind, to be manipulated precisely as a «thing», an object independent of the mental processes that had produced them. The perception of the content of our thought was changed forever. In the most mundane of the early texts, say a ledger listing herds of animals, the graphic embodiment of totals and subtotals has, indeed, a specific referential value: those vast numbers are matched by discrete physical entities, the animals. But the full valence of a number in the thousands, as applied for instance to a large herd in cuneiform archival ledgers, is greater than the graphic sign employed, and is more powerful than its referent (the physical herd as assembled in the actual pens). It is greater and more powerful because the concept can be inspected *qua* concept: you could never perceive thousands of physical animals as a whole, not the way you see the corresponding figure on a cuneiform tablet; and you could not verify, much less dispute, the accuracy of the figure arrived at perceptually by looking at the herd as a mass. You could only do that by checking the grand total in its written embodiment against the subtotals, all the way back to the initial input tablets where the single individuals are listed. The arrival of articulate speech had, much earlier in prehistory, already introduced the correlation between a concrete item and its referential embodiment (the word), but writing heightens the distinction by giving the referential element its own physical embodiment (the written word). *Verba volant, scripta manent.*

Let us take this one step further. When writing was first introduced in southwestern Asia, its practitioners depended primarily on two different types of material, *clay and papyrus*, at least when dealing with the standard record of routine information (stone, metal, sherds, eventually wax, were used in specialized settings). This simple fact conditioned, more than may appear at first, the perceptual impact of the new technique. Papyrus could best be assembled in long strips that would be rolled to almost unlimited lengths around a central peg. Clay, on the other hand, could best be shaped into tablets

[1] I am grateful to Hans Barnard, Federico Buccellati and Marilyn Kelly-Buccellati for their careful reading of the manuscript and their suggestions. The final choice of what appears in the article is of course my responsibility. See below, n. 2, for a reference to the website that I propose as exemplifying the principles stated here, and as the place where bibliographical reference are found.

that were self-standing and more limited in size. The perceptual impact has to do with the way in which information can be retrieved. The scroll is linear by definition: the argument unfolds as the document unfurls, in a sequential mode that is inflexibly tied to the physical aspect of the medium. The tablet, on the other hand, embodies self-contained fragments that, if more limited in scope, can more easily be compared with each other.

When yet another medium came into use, sheep skin or *parchment*, a further development ensued, which brought together in unexpected ways the two perceptual registers of tablet and scroll, and created a new vehicle, the codex, i.e., the book as we know it. This affected afresh the perception a reader could bring to the text, because the pages as discrete components were linked together by virtue of being bound in book form. It was like getting the best out of the two original systems: the book (like the scroll) provided an overarching linear continuity that held together a vast quantity of components, i. e., the pages, while the pages (like the tablets) could at the same time be viewed independently as self-standing entities. Two important consequences went hand in hand with this innovation.

Turning pages meant that *comparing bits of information* or logical steps in the reasoning was immensely easier than placing tablets side by side or pivoting a scroll around its central peg. But it was more than just ease. The impact on perception was such that a critical analysis of an argument and an accurate check of underlying data could now be performed with a control of details that was not heretofore possible. The reader could now develop as if a second set of logical threads pervading the argument — a second linearity, not as a sequence of pages, but as an alternative set of non-sequential pages, held together by the reader's own critical inquiry.

Second, a *perception of the whole* could be gained that was incomparably more substantial than with the previous tools. Leafing through a book meant that one could assess at a glance the consistency of the work. The whole could emerge in a visual and tactile way that provided an entirely new support for the conceptual reality embodied in the medium. The book was to be a more limpid mirror of an argument that develops linearly along a well defined sequence of steps but rests, at the same time, on discrete and individually accessible pieces of evidence.

The next major step in the perceptual history of writing and reading was the introduction of the *printing press*. While the immediate impact was on a practical level (greater accessibility), more significant repercussions were to be felt at some temporal remove in terms of conceptual organization. Two new types of «publications» emerged: the encyclopedia brought to a new level the search for generalization, and the scholarly journal offered a new avenue for in-depth specialization. The growing chasm among intellectual sectors made it possible to increase exponentially the results within each, while the growing encyclopedic mentality offered a bridge among sectors that would alleviate the sense of disparity caused by specialization. There was also another interesting and consonant development, the systematic development of the footnote. This is not just a minor formal device, but rather a conceptual mechanism that makes outwardly visible different registers on which writer and reader can operate: in a footnote, parallel aspects

of the argument and the full details of the documentation are provided in close juncture with the sequential flow of the main discourse.

The purpose of this brief overview is to suggest that, in order to better appreciate the way in which *the computer* affects, or should affect, our intellectual posture, we would do well to look at how this new medium impacts not only the practice of scholarship, but the deeper perception of how we construe arguments, both as writers and as readers. It is the question of digital thought. I am not referring to the use of outputs, however specialized (from data bases to simulations), nor to the familiarity we have developed with quantification (about which more later). These are indeed modifying our perception especially with regard to how we can muster data to bolster our argument. But they are in a sense a ready made result offered by technology, and do not effectively change the way in which we construe an argument in the first place — which is the theme I am seeking to develop here. In that respect, we may tend to take for granted the usefulness of the computer as a mechanical tool, and we stop there. With a more deliberate approach, we may instead try to channel perceptions more directly in such a way as to favor intellectual constructs that take advantage, more aggressively, of the new medium.

To dedicate this essay to Vyacheslav Ivanov is particularly meaningful to me. The breadth of his interests is matched only by the depth of his insights, and I know from our conversations that he follows with the same keen interest reflections based on archaeological data as he does a linguistic, a literary, or a historical argument. It has been such a privilege to share with him not only an institutional home, but beyond that a broad commonality of interests — from our work at ancient Urkesh to the reading of Akkadian literary texts. To share, also, a warm human friendship that has happily included our families. This article expounds the theoretical presuppositions which underlie a specific website,[2] and I hope that, by combining the musings of theory with data pertaining to Hurrian culture, my article may appeal to two of Vyacheslav's wide-ranging interests and may elicit that inimitable smile of his that conveys enthusiasm and thoughtfulness at one and the same time.

2. Digital thought

Some of the major cultural trends in the twentieth century have set the stage for a proper understanding of digital thought. I will refer in particular to two. The first is the projection of *discontinuities in the natural sequence*, of which painting provided the

[2] The website is devoted to the publication of our excavations at the ancient site of Urkesh (www.urkesh.org) and implements the principles I am outlining here: as such, it is meant to serve as an example of what I consider to be proper digital thought, something which is altogether distinct, conceptually, from a book, whether in a printed or an electronic medium. Because of space limitations, this article is meant as a programmatic statement, and I must refer to the website for concrete examples, a full exposition of the theory, and a complete bibliography. — In addition to the archaeological dimension which is embodied in the Urkesh website, I have also worked on a digitally based linguistic analysis of Old Babylonian, which has subsequently been expanded to other dialects of ancient Mesopotamia.

prime example with movements like cubism. Naturalism had meant, for centuries, that the continuity of the natural order provided the basic presupposition for the presumption of wholeness: it is not so much that a painter sought to imitate nature, but rather that, say, a human figure declared the compositional code that guided the creative effort of a painter and set the frame within which a viewer could understand it. This tagging is important compositionally more than representationally. The pipe in Magritte's «Ceci n'est pas une pipe» (and Michel Foucault's attendant monograph) elicits a compositional expectation that is confirmed by the fact that the contours in the painting match those of the referent. «Ceci» is the referential, «une pipe» is the referent. The two are not the same, but the former is configured in a way that is defined by the latter: one might rewrite Magritte's title as «Ceci est une 'pipe'», or, with a post-modern flair, «Ceci est ~~une pipe~~.» By adopting a representational mode, one states (however implicitly) the limits of expectation within which both painter and viewer operate: it is tacitly agreed that, say, a painted object (e. g., the pipe) will be compositionally configured in the same way as its perceived referent. This is a fundamental moment in the process of communication between painter and viewer. When a stylistic movement like cubism explodes the goal of representational naturalism, it simply transfers the limits of expectation from one level to another: the compositional wholeness of the proposed image does not match the wholeness of any known referent, hence the tagging of the painter's compositional intent is to be sought outside of the natural sequence.[3] But it is by no means denied. It is just that the code binding painter and viewer, their shared limit of expectation, is to be found elsewhere.

The second trend is the *fluidity in the mode of thought*. It is an irony of deconstruction that the very notion of «deconstructing» has come to be understood as no more than parsing, an effort at articulating the structure of a construct. In so doing, one obtains the exact opposite effect of what was intended: once analyzed, the construct is frozen as an organized congeries of component parts. This is deconstruction as an epigonic fad. The merit of the original insight, on the other hand, was to point to the danger of a scholastic approach that leads only to the sterility of a presumed possession, i. e., the presumption that constructs, once defined, can be owned. The alternative proposal is that constructs are alive and cannot be boxed into immutable conceptual frames — in one word, fluidity.

Discontinuity and fluidity are the hallmarks of digital thought. *Discontinuity* refers to the disparity between the organization of the data on the one hand and their display on the other (between input and output, for short). To appreciate this point one may think of a merely electronic (as opposed to digital) way of using the computer: in standard word processing, the effort of the industry has been to obtain a perfect match between input and output, so that as one clicks on the keyboard the text appears in the format it will have when printed — in a What-You-See-Is-What-You-Get mode. (Those who started with the earliest versions of word processing will remember the various achievements

[3] The reconfiguring of the natural sequence along alternative protocols of understanding is well expressed by the term that Svetlana Ivanova has chosen to define the style of her splendid art work — «anagrams».

that punctuated the progress and which are now taken for granted, such as page formatting or automatic insertion of footnotes at the bottom of the page.) There is no question as to the superiority of this technology over the typewriter. But it does not affect in an essential way the conceptual dimension of our writing or reading a text. Such a dimension emerges instead when the writing (input) is diversified in its formats and is structured in ways that do not match any of a variety of possible displays (output). Such match is produced by the operation of programs that manipulate the input in a variety of different ways and produce multiple outputs serving different purposes. There results a multi-layered quality that requires new perceptual ranges on the part of both the writer and the reader. Substantively, the input layer is the same as any of the possible outputs, which occur in a variety of alternative displays. The perceptual adaptation which I am advocating (on the part of writers and readers) pertains precisely to the ability of (a) exploiting the protean dimension of the system by designing the shape in which the multiple possible outputs may occur, (b) correlating the structure of diverse outputs that share the same substantive basis, (c) establishing a three-dimensional grid that raises the hyperlink function to a structural, rather than just an anecdotal, level (see the next section).

The need to transition smoothly and structurally from one level to the next takes us to the second point, *fluidity*. The multi-layered quality of a digital text makes it more fluid in its configuration, so that it becomes more difficult to develop a proper perception of the whole. We can never read a properly digital text from cover to cover[4] — for conceptual as much as for physical reasons. But the flip side is that fluidity impacts greatly on the full utilization of the data. Think of it this way: a critical reading of a text means that one follows the linear argument developed by the author, while developing at the same time parallel registers where alternative arguments unfold and additional data emerge. The fluidity of a digital text means that these parallel registers are built into the text itself, in two ways: by saturating a text with hyperlinks, alternative inquiry paths offer themselves spontaneously to the reader; and by articulating clearly the conceptual structure of the underlying data, the reader can instantly go from the highest nodes of an argument to the most minute supporting piece of evidence. There is an important side effect to these considerations. Automation as well as the vastness of the basic data set mean that several of these alternative inquiry paths were not even envisaged by the writer, but emerge as if spontaneously for the reader (including the writer as reader). Mark well: I am not saying that the goal is to provide un-argued data. Quite the opposite. An argument must be developed that represents the author's point(s) of view. But the nature of the digital framework raises to a much higher level the possibility to branch off into alternative registers that form the basis of critical thinking.

An important correlate of discontinuity and fluidity is the co-presence of *fragmentation and integration*. Mustering single facts and data to support an argument is of course

[4] I am obviously excluding from consideration texts that are electronic but not digital, of which the mirror image version of the printed page is the best example (for which currently the .PDF format is the rule). See below for a comment on otherwise obvious advantages of the electronic format, such as the search capability.

part and parcel of any reasoned discourse. But there is a major qualitative difference within digital thought, because there is practically no limit to the quantity of the fragments that can be invoked, nor to the speed with which they can be marshaled and recomposed. The search function is an important aspect of this process, in the sense that it gathers fragments in function of an item of choice. It is also the one that is universally used. However, it is very limited as to the ability to integrate the fragments into larger wholes.

The theme of fragmentation/integration can best be seen in the light of the concept of linearity vs. *non-linearity*. As in the case of deconstruction, the term «non-linear» has come to be used with a kind of awed reverence that belies its true meaning: as long as it is rooted in computer usage, anything seems to be susceptible of that label. Hyperlinks used as jump-off points for chained detours are the most common example. Conceptually, however, hyperlinks serve the same function as cross-references in standard books, which could then also be considered non-linear. A more powerful traditional example of non-linearity can be found in ledgers and maps, of which we have examples dating back to almost the very beginning of writing: in this case, non-linearity means that there is no unilinear sequence (as a set of directions would offer in contrast to a map), but rather a three-dimensional grid through which multiple linear sequences exist and reciprocally intersect. It is, rather, in another respect that the concept of non-linearity is new, valid and important. By virtue of the discontinuity and fluidity factors I have just described, and as a result of the grammatical dimension discussed below (section 4), any element of a complex website is explicitly relatable to a multitude of other elements. So, in effect, rather than non-linearity we could speak of multi-linearity, where connections among points of multiple linear sequences can be made instantly, short-circuiting the step-by-step progression of overt linearity. To refer to an alternate geometric figure (and to avoid the negative overtone of the term «nonlinear»), I have used the term polyhedral to refer to this mode of thought, viewing the connections as cutting figuratively across a volume (the polyhedron) and linking not just points, but planes (the faces of the polyhedron) on which the point is placed. Such «polyhedral», «multi-linear», or «non-linear» process is at the basis of intuition and originality: links are intuited that are not obvious. What the critical follow-up of an insight does laboriously, by articulating the intervening steps short-circuited by intuition, digital thought does systematically, when channeled and supported by a proper digital text.

It should be evident that I am not talking about anything like artificial intelligence. I am rather considering what happens downstream of it and of any form of automation. My goal is to show how we should develop new perceptual registers that take more fully into account the power of the medium at the very moment that it engages in automation. In contrast with a WYSIWYG goal, whereby the display mimics as perfectly as possible established traditional standards, it seems to me that we should develop a greater sensitivity for the new mechanisms the medium offers us. Consider what has taken place with regard to quantification. Not only is it within common parlance to use degrees when referring to temperature, knots for winds, Richter scale values for earthquakes, percentages for all sorts of statistical assessment (e. g., when we speak of a landslide election

that has been won with, say, 60% of the votes). In fact, our perception of quantification so permeates our mental attitudes that we approximate quantification even when no actual measurement has been taken (e. g., when I say that I am 90 % finished with the writing of an article). It is this kind of perceptual adaptation to the digital medium that I feel still needs to be developed, whether or not we master the intrinsic workings of the medium. A good parallel may be envisaged by referring back once more to the introduction of writing. While very few people in Mesopotamia were literate, they were all para-literate — meaning that there developed a universally accepted perception of scribal techniques and their products even by that vast majority who could neither write nor read. Thus even a commoner relied on a written title deed for his real estate, a plaintiff on the awareness that a legal canon had been enshrined on an inscribed stele, a sick person on the knowledge that his disease was somehow listed on a tablet that included also an incantation to be used as a remedy. It is in just this vein that I am suggesting we should develop a greater «para-digital» perception of what the medium can do that no previous communication medium ever did.

3. Mechanisms

Digital thought finds its specific embodiment in the shape of a *digital text*. The obvious definition, it would seem, is any combination of words and images displayed on a computer screen. But this refers merely to the electronic dimension. Conceptually, this difference may be minor, like that between a hard and a soft cover edition of a book. The proper digital dimension is one that builds on the elements of discontinuity and fluidity, providing a presentation that is at one and the same time linear (because it proposes an argument that flows sequentially) and non-linear or multi-linear (because it offers multiple registers that converge with and intersect the main narrative). A browser based text (as with .HTML and .XML formats) is an ideal venue. But it has to be produced and structured in ways that go beyond a string-like arrangement analogous to that of a printed text.

Automation is an important moment in this process — even more on the conceptual than on the practical level. It is through automation that the value of discontinuity emerges, for data entered in an atomistic fashion coalesce into an incremental, meaningful whole — or, in fact, into multiple meaningful wholes. These are all profoundly integrated, because the whole arises from the fragments, the structure is established from the bottom up in terms of the procedure followed, and from the top down in terms of the underlying grammatical structure (for which see presently). There is also a guarantee of transparency, because the organization of the data is independent of manual overrides that tend to gloss over inconsistencies.

But an important dimension that must be built into automation is to have the presentation result in a proper *narrative* that develops an argument, going beyond the static juxtaposition found in a data base approach.[5] Or, again, in multiple narratives that draw

[5] This is far from belittling data bases, which not only serve eminent practical purposes, but also represent a major conceptual achievement to the extent that the categorization on which

on the same substantive data and organize them from different points of view. This happens in the first place by sorting the data according to categories that are predetermined in a logical sequence: the implicit tagging that derives from the grammaticality of the input (as we shall see in the next section) matches the data against the pre-established logical sequence, and displays the data accordingly. It is important that the display on the actual page of the browser edition provide at all times a clear and explicit overview of the full scope of the whole (typically through expandable sidebars), so that a perception of this whole not be lost, as I already stressed in the preceding section. Another aspect of this self-generated narrative is the production of multiple statistical tables that organize the data according to a variety of nested higher nodes. While the format is that of a data base, the interconnection of each with the remainder of the browser edition results in a coherent whole that, in its own way, contributes to the unfolding of the narrative — by proposing meaningful groupings of data.

Such a digital narrative requires in effect the nurturing of a new perceptual response. An argument is truly proposed, and it is buttressed by the appropriate data as in any standard «linear» publication. But the complexity of the logical structure, the richness of the supporting evidence, and, indeed, the shape of the format in which it is all presented are such as to foster new scholarly habits. The correlative of digital thought is, therefore, a kind of *digital reading* that is supple enough to weave its way through the many parallel paths available. It is in this fashion that we will really be able to *study* a website, not just skim prose pages that are a priori deemed to be little more than introductory in nature, nor just consult data bases as organized but static repositories of data. If studying means, as I stressed earlier, to follow an argument and critique its data by developing our own registers parallel to those of the author, then digital reading must avail itself of the opportunity offered by the co-presence of multiple registers embedded in the original text itself.

One further opportunity in this dynamics is the one offered by a *hyperlink saturation* that, again, is only made possible by automation and grammaticality. In the Urkesh website several million hyperlinks are generated (an average of half a million for each excavation unit), and their conceptual significance is that they allow the reader to follow new inquiry paths, new narratives, beyond the ones already present explicitly within the system. Now, hyperlinks are of course a common feature of all websites, and some are particularly rich — for instance Perseus or Wikipedia. But there is a difference. The standard implementation of hyperlinks is, we might say, two-dimensional or flat: one atom leads to another. Now each is of course embedded in its own whole, its page. But there is no structural linkage among pages *qua* structures in their own right. That is instead a goal of the system I am advocating, and which I am proposing in the Urkesh website. By virtue of the implicit grammatical tagging of each element, each atom is an integral part of a subset of tags (as if a linguistic paradigm), so that a linkage between atoms es-

they are based offers a «grammatical» (see presently) articulation of the structure that defines the data. I am only saying that a data base is not a narrative, hence it is not, in and of itself, an argument.

tablishes at the same time a linkage between subsets (paradigms). It is, you might say, a three-dimensional use of hyperlinks.[6]

The concept of interactivity is commonly applied to what I have just been describing. «Interactivity» is an apposite term, but it points to a general weakness in the way in which the computer (and in particular the World Wide Web) has, or has not, been integrated within the universe of intellectual discourse. Such a discourse has been in effect sidestepped because we have let ourselves be overtaken by *perceptual ranges that are instinctive rather than reasoned and channeled.* As a result, they detract from exploiting the potential of the medium*,* rather than contributing to it. Thus interactivity viewed as the *ad hoc* pursuit of one hyperlink after another does satisfy a sense of curiosity, which may well be perchance productive, but more often caters to a quest that is as aimless as it is endless. The superficiality of this approach is brought home by the terms used, such as «browsing» or «surfing», which aptly refer to skimming the surface rather than probing the depths. The vastness of the universe at our disposal is such that skimming has become second nature even for intellectual pursuits.

The situation seems to differ when we know already what we are looking for, and we seek only verification or expanded information. Then we «consult» an available text or data base through a search. This is of course a very powerful, and most welcome, tool. But mark well: a search presupposes knowledge of the whole, it does not contribute to it. Accessing with such ease the fragments easily leads away from envisioning the whole, i. e., from developing, or even following, an argument: *negatively, function wins over structure*. In the process, we are unwittingly fostering a generation of students who are experts in searching and finding the *disjecta membra* of an argument they never learn to construct, and which they may even have difficulty in following. Worse, the power of a Google search creates the illusion that one has done so.

4. Grammaticality

The success of the system depends on its grammatical underpinnings. The concept may seem at first to contradict what I said earlier about discontinuity and fluidity. In fact, however, there is no contradiction because the rigor of a grammatical structure antecedes the moment when both discontinuity and fluidity come into play, and it is then through it that the emerging non-linear narrative is possible in practice. What I mean by *grammaticality* is a closed system where each and every element is structurally related to every other element in the system. An open system would allow the ad hoc change of a single element, which would affect neither the structure of the system nor the other elements. In a closed system, on the other hand, any change would have structural implications. A simple example may be borrowed from linguistics: if we were to add a case to a nominal declension system, it would not affect a single lexical item; rather, one would have to

[6] This aspect of the system has been aptly characterized in these terms by Federico Buccellati in a paper he presented at the national meeting of the Society for American Archaeology in Austin, April 2007.

make allowance for such a new case to be applicable to all other nouns in that declensional category.

The power of grammaticality, and its impact on digital thought, resides in three distinct aspects. The first has to do with the very notion of a *closed system*. The input can be immensely simplified because each element in it is integrated at its very origin within a system that expands its valence almost without limits. Each such element can be seen in a much larger scope than it would have if seen in a vacuum, i.e., in isolation from the grid of relationships that its grammatical status entails. It is because of this that the aspect of discontinuity is possible and constructive: elements that are disparate in themselves and disparate in their relationship to the various outputs are in fact ordered to the coherence of the whole, or wholes, which emerge in the output.

The second is the notion of *implicit tagging*. Consider again the linguistic example of a nominal declension. The Latin sequence *amor amoris* declares a structural set-up that is applicable to a number of other lexical items. However, neither does this sequence occur in speech, nor is it necessary for either form to be explicitly tagged in speech. In other words, there is no need, in speech, to parse *amor* as nominative singular masculine. Its belonging to the structural set-up of *amor amoris* is implicitly declared even apart from that paradigmatic sequence: any time that it occurs in the language, whatever the context, its full valence is embedded in the word. There is no need for explicit parsing, because a full implicit tagging is coterminous with the word itself. The impact on digital thought derives again from the fact that the input can be simplified to the extreme, since each element (as long as it grammatically coherent) carries within itself the potential to expand into the immensely larger matrix of the digital text.

The third is that, given a truly comprehensive grammar, each element carries within itself a *declaration of impossibility*. A form **amoram* is impossible in the linguistic paradigm. It is the sequence of which *amor amoris* are part that declares it so. An immensely rich distributional analysis becomes possible when a large inventory of data is grammatically coded (and hence implicitly tagged): we know then what the limits of distributional arrays are. And this is the ultimate, and the only objective, key we have to disclose meaning in closed systems that embody the broken traditions of past («dead») cultures.

It is through practical applications that these theoretical principles can be tested and shown to have validity. As a matter of fact, I am formulating them as the result of a long confrontation with concrete data. It was in working with both linguistic and archaeological data that I felt the need to create an instrument that would do justice to the power of the electronic medium, one that would develop new habits and perceptions that might be properly called digital. It is by looking at these websites (see above, note 2) that one will come to a better understanding and, I hope, appreciation of the theory presented here — as if listening to the actual language of which one has otherwise only read the grammar.

RUSSIAN ACADEMY OF SCIENCES
INSTITUTE OF SLAVIC STUDIES

STUDIES IN LINGUISTICS AND SEMIOTICS

A Festschrift for Vyacheslav V. Ivanov

Nikolaeva, Tatiana M. (ed.)

LANGUAGES SLAVIC CULTURES
Moscow, 2010.

РОССИЙСКАЯ АКАДЕМИЯ НАУК
ИНСТИТУТ СЛАВЯНОВЕДЕНИЯ

ИССЛЕДОВАНИЯ ПО ЛИНГВИСТИКЕ И СЕМИОТИКЕ

~

Сборник статей к юбилею
Вяч. Вс. Иванова

Ответственный редактор
Т. М. Николаева

ЯЗЫКИ СЛАВЯНСКИХ КУЛЬТУР
МОСКВА 2010

СОДЕРЖАНИЕ

Вопросы теории

T. V. Gamkrelidze. «Paradigms» in linguistics and the problem of the isomorphism between the Genetic Code & Semiotic Systems 11

А. Е. Кибрик. Место сравнительного языкознания в кругу лингвистических дисциплин 16

В. К. Финн. Принципы искусственного интеллекта и феноменология сознания 27

G. Buccellati. The question of digital thought. 46

В. Г. Лысенко. «Лингвистический детерминизм» Эмиля Бенвениста и случай вайшешики 56

R. K. Englund. The Smell of the Cage 68

Сравнительно-историческое языкознание

А. Ю. Милитарев. О возможности пролить свет на интеллектуальную культуру доисторического человека (на примере праафразийских терминов, связанных с музыкой, пением и танцем) 97

M. Valério, I. Yakubovich . Semitic word for ‘iron’ as an Anatolian loanword 108

V. Blažek. Hurrian numerals 117

N. Operstein. Two developments of Proto-Zapotec **ty* and **tty* 124

I. Klock-Fontanille. Le loup en hittite et louvite: exclusion et rassemblement. 135

H. C. Melchert. Hittite *talliyē(šš)-* ‘be(come) calm, quiescent’ 148

J. Puhvel. Notes on Anatolian sibling terms 153

V. Shevoroshkin. Four notes on Milyan 156

R. Anttila. Unmasking *Gustav* — once again 168

L. I. Kulikov. Atharvaveda-Śaunakīya 19.49.1 = Atharvaveda-Paippalāda 14.8.1: An etymological note on Vedic *rā́trī-* ‘night’ 174

J. P. Mallory. Semantic field and cognate distribution in Indo-European 180

B. Vine, O. T. Yokoyama. PIE **(h$_1$)euh$_1$-dh-* ‘excrete liquid’ and Russian Dialectal *udut* (3 pl.) 191

Ж. Ж. Варбот. Рус. разгов. *сечь* ‘понимать’ — неологизм или архаизм? 197

Т. М. Николаева. Русский и хеттский — через тысячелетия 200

Грамматика, лексика, типология

Ю. Д. Апресян. Принципы лексикографического описания многозначных слов 214
Е. В. Падучева. Метонимия как сдвиг фокуса внимания 231
В. С. Храковский. О зависимом/независимом статусе ситуаций 248
А. А. Зализняк. Ударение просодических комплексов в истории русского языка 257
Л. Л. Касаткин. Неопределенные местоимения и наречия с постфиксом/суффиксом *-ся/-сь* в говорах русских старообрядцев 269
М. С. Флайер. Суржик или суржики? 278
Р. Ф. Касаткина. Ларингализация в русской фонетике — сегментный уровень 293
R. M. W. Dixon. Gradual loss of a gender contrast 299
A. Y. Aikhenvald. Typological plausibility and historical reconstruction: A puzzle from New Guinea 306
W. R. Schmalstieg. Some common functions of the dative, accusative, and locative cases 315
П. М. Аркадьев. И невозможное возможно: Типологические заметки о взаимодействии падежа с другими морфологическими категориями 322
Б. Огибенин. О выражении граммем в склонении имен в буддийском санкрите 334
С. А. Бурлак, И. Б. Иткин. *Yreki* et autres addenda et corrigenda-2 339

Культурология и семиотика

J. Kordys. Of gifts, sovereigns, and philosophers 359
А. И. Коваль. Ремесленники Слова у фульбе (Субсахарская Африка) 366
С. Ю. Неклюдов, Е. С. Новик. Невидимый и нежеланный гость 391
М. В. Завьялова. Мифологема гороха и боба в контексте основного мифа (на балто-славянском материале) 407
Е. В. Пчелов. «Лев и Единорог» в русской культуре: К вопросу о семантике символов 424
М. Мейлах. «Не оглядывайся!»: Где, когда и позади кого оглянулась Лотова жена? 434
Т. В. Цивьян. Богини изваянье 458

И. А. Протопопова. Метафора «воскового отпечатка» в греческой философии 475
Л. Флейшман. Отклики в русском Париже на «Зимнюю войну» 481

Структура текста

М. Ланглебен. Рассказ И. Бунина «Сны» и *Откровение Св. Иоанна* 501
Г. А. Левинтон. Заметки об Ива́новых 515
N. Pollak. Akhmatova's two imitations of I. F. Annenskii 530
R. Vroon. Nets, stars and numbers: Some notes on Velimir Khlebnikov's cosmology 536
А. Хан. О значении образа «глухой вселенной» в контексте цикла «Занятье философией» Бориса Пастернака 541
Д. М. Сегал. Доктор Живаго — еврейский роман? 551
Ф. Б. Успенский. Об отдельных случаях неявной иконичности в русской литературе 560
Н. В. Злыднева. Экфрасис в «Путешествии в Армению» Мандельштама: проблема референции 570
Е. А. Папкова. Русский народный утопический идеал в творчестве Всеволода Иванова 578
I. Merkoulova. Les mécanismes du dialogue: Polyphonie, ponctuation, énonciation 588

* * *

Jakobson in My Life: An Excerpt from *The Blue Beast* (translated from Russian by Michael Henry Heim) 603