Digital humanism. The fragments in-discourse with the whole¹

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(translated by M. De Pietri)

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The confrontation between technique and human values is long-standing, very longstanding. We think of the beginning of agriculture, which marks one of the great moments in prehistory as regards the technical control over nature: it led to unexpected possibilities of population increase, and therefore to urbanism, to what we call "civilization." In this context, the comparison between technology and value of the human being soon became a contrast. Think of how, in fact, slavery is, we can say, a synonym of "civilization" because their beginnings coincide in time. The question therefore immediately arises: where are the human values when civilization begins around 3000 B.C.?

This is precisely what the title of the project of the University that hosts these meetings of ours aims at, *Technology and Human Values*, a title that well summarizes the question that we all ask ourselves today, when phenomena such as globalization and digitization present us with a social situation closer than at any other moment in history to that

¹ This paper is part of the research project <u>*Cybernetica Mesopotamica*</u>, under the aegis of the Balzan Foundation, of which I am co-director together with Marilyn Kelly-Buccellati.

moment of radical transformation that took place five millennia ago, when writing began. Our volume, *Humanism and Digitization*, seeks to launch a discourse addressing this question from converging points of view. The title of the book inverts the terms: humanism is here placed before technique – and it is nice that it is so, because what we want to do is precisely to emphasize the fundamental and urgent vocation of the humanistic tradition to give meaning to the things.

Here, our volume, like the conference from which it arises, wants to help to give meaning to an asset, technology, which already enriches us in so many ways but which, left alone, can only impoverish us. Towards this goal, I would like, with my contribution, to highlight how it is necessary to maintain a clear awareness of the value of everything precisely at a time when digitization aims at the opposite. The etymology of the term "digital" is significant. Italian takes it from English, where the original Latin *digitus* "finger" has come to mean "digit" due to the way fingers are used in more computation in the most elementary computation that exists, the one based precisely on the articulation of the fingers to count up to ten. The finger therefore becomes a metaphor for the minimum component of a whole, the hand. And it is this "interlacing" of the fragments with the whole to which we want to pay particular attention here.

1 From the whole to fragments

Technique and analysis are two sides of the same coin. Both aim at the fragmentation of the real, the analysis in a descriptive key and the technique in an operational key. And the ultimate purpose of fragmentation is the control of the real, of that whole which confronts us as such at the beginning and to which we should return by an operation of synthesis, a goal to which we are becoming disaccustomed. Socrates gives an eloquent formulation of this when he says that he is "in love with divisions and re-assemblages" (ἐραστής ... τῶν διαιρέσεων καὶ συναγωγῶν *Phaedrus* 266b) and says that the ideal writer is the one who "sets limits by cutting until one can cut no more" (ὁρισάμενός ... μέχρι τοῦ ἀτμήτου τέμνειν *Phaedrus* 277b).

As a simple but significant example, let us look at how a text, continuous in itself, is divided (fragmented) into constituent components. A very short cuneiform text from 2300 B.C. (Fig. 1) already shows a keen awareness of the dividing, the limiting, the cutting off (as Socrates would say) of the flow of discourse into the constituent words of the sentence:

Uqnitum	Uqnitum
DAM	wife <mark>(of)</mark>
Tupkish	Tupkish

It was not an easy achievement, that of the graphic division of words in a written text. Consider how some two millennia later, Greek texts were still written without dividing words *(scriptio continua)*, to the point that under Greek influence even Latin texts abandoned the practice of punctuation at some point (Dickey 2017).

Let us consider another way of subdividing a continuous text. I would like to see in this light the way Plato uses short interlocutions in his dialogues that produce as a splitting of the discourse into central cores of the argument, almost like subtitles:

«Οὐκοῦν», ἔφη ὁ Σωκράτης, «εἰ ταῦτα ἀληθῆ, ὦ ἑταῖφε, πολλὴ ἐλπὶς ἀφικομένῳ οἶ ἐγὼ ποφεύομαι, ἐκεῖ ἱκανῶς, εἴπεφ που ἄλλοθι, κτήσασθαι τοῦτο οὖ ἕνεκα ἡ πολλὴ πφαγματεία ἡμῖν ἐν τῷ παφελθόντι βίω γέγονεν, ὥστε ἥ γε ἀποδημία ἡ νῦν μοι πφοστεταγμένη μετὰ ἀγαθῆς ἐλπίδος γίγνεται καὶ ἄλλω ἀνδρὶ ὃς ἡγεῖταί οἱ παφεσκευάσθαι τὴν διάνοιαν ὥσπεφ κεκαθαφμένην».	"Then," <u>said Socrates</u> , if this is true, "there is much hope for one who goes where I go, that there more than anywhere else he will be able to possess the object that has been at the center of life, and so the journey now assigned to me can be undertaken with great hope by any other man who considers his intellect prepared to be purified."
«Πάνυ μὲν οὖν», ἔφη ὁ Σιμμίας.	"Yes of course," <u>Simmia said</u> .
«Κάθαοσις δὲ εἶναι ἆοα οὐ τοῦτο συμβαίνει, ὅπεο πάλαι ἐν τῷ λόγῷ λέγεται, τὸ χωοίζειν ὅτι μάλιστα ἀπὸ τοῦ σώματος τὴν ψυχὴν καὶ ἐθίσαι αὐτὴν καθ' αὑτὴν παντασώματος τὴν ψυχὴν καὶ ἐθίσαι αὐτὴν καθ' αὑτὴν πανταχόθεν ἐκ τοῦ σώματος συναγείοεσθαί τε καὶ ἁθοοίζεσθαι, καὶ οἰκεῖν κατὰ τὸ δυνατὸν καὶ ἐν τῷ νῦν παοόντι καὶ ἐν τῷ ἔπειτα μόνην καθ' αὑτήν, ἐκλυομένην ὥσπεο [ἐκ] δεσμῶν ἐκ τοῦ σώματος;».	"But is it not true then that this purification is what we have been talking about up to now, namely, the departure of the soul from the body by exercising it to reunite in unity every part from which it is detached, remaining gathered in itself in the present and the hereafter, free from the bindings of the body?"
– «Πάνυ μὲν οὖν», <u>ἔφη</u> . –	– "Indeed, of course," he said. –

Stephanus' codification will later create, in 1557, an arbitrary fragmentation, i.e. independent.

Word division in digital texts adds a new element, namely, a hidden link that, when activated, invokes one or more parallel texts. It is the dimension of multiplanarity that introduces something radically new, namely the virtual co-presence of multiple planes. As an example we can look (Fig. 2) at the beginning of the Gospel of Matthew in the <u>Perseus</u> digital edition, where for each individual word there is a link that leads to a precise grammatical categorization, and a general statistic about the same word based on the corpus as a whole.

Fragmentation should not be an end in itself, but instead remain strictly conceived as a function of the whole. One way to express this reality is to describe fragmentation as cellularity. The moment we consider fragments as cells, we emphasize their belonging to the whole: a cell presumes an organism that functions because it is articulated in a cellular way, where cells depend on each other, and it is this organic co-dependence that affirms the integrity of the organism at the very moment it affirms the subdivision and combinatoriality of the constituent parts.

2 The digital filter

In the examples we have seen, the text is the initial whole that is fragmented, but the perception of this whole always remains intact in its entirety. A printed book always remains perceptible as such, between two covers. Thus, the graphic division into words is possible only because we always have the whole text in front of us as such; and the division into argumentative cores in Plato's dialogues serves to augment argumentation by accentuating the dynamic of consequentiality between one argument and another.

But already with our third example, the Gospel of Matthew in digital format, we lose the physicality of this perception. There are no longer two covers, and this is not just a figure of speech. The digital format does not give us a sense of the text in its entirety, and this is compensated by mechanisms that moreover are not enough, in the way they are used, to prevent the loss of the perception of the whole that is also hidden through the filter of digitality. We see three ways in which the whole is glimpsed through the digital filter.

2.1 The digital text

A digital text is either in analogical form, that is, where a faithful copy of a printed text is given (typically in .PDF format), or in natively digital form (typically in .HTML format). The metaphor of printed text extends to this version, since we speak of "pages" referring to structurally coherent units even if they are not generally perceived visually as a whole, for which one must in fact scroll through the screen (the "display").

The two great advantages of this format are (1) the possibility of doing word searches and (2) the possibility of "hyperlinks", that is, dynamic connections between multiple planes. Both cases presuppose coherence of the whole: one searches for words because they open a window to intermediate sections of this whole, and one links to other planes because one expects coherence between them. But in neither case is this wholeness and integrity of the text brought out. It remains hidden.

The mechanism that succeeds in this endeavor is the presence of bars or drop-downs, either at the top of the page or at the sides, that provide an overall view of the page and the text as a whole, where references again function as dynamic hyperlinks. This mechanism is indeed very functional, but it is often not used, or not fully used.

2.2 The electronic spreadsheet

In an electronic spreadsheet, data are entered not from the whole, but as they come to attention, one after the other, not as a function of each other (Fig. 3 A) – as is the case when writing unitary text, where each word is entered as a function of the others that precede and follow. A special feature that gives unity to the data thus entered is the assumption of a categorization system that is uniformly used for each data entry: this means that the cells are in effect conceived as such, that is, as elements of an organic whole.

The sense of the whole is then re-presented in indirect ways, particularly by the possibility of "sorting" in different ways the data: if we reorder the rows according to the alphabetical sequence of letters in the first column, we have a sense of a whole that follows a certain internal order (Fig. 3 B).

We can then do a search according to criteria we establish ("queries"), and thus find all instances of x within our corpus (Fig. 3 C). This, too, gives us a sense of the whole, because we know that we have here *all* the cases in which x is found in the corpus.

Then there are the cases where x and y co-occur (Fig. 3 D), which we can again sort in ascending order (Fig. 3 E), and so on. Here, too, the sense of the whole emerges, because the re-sorting of data according to even complex parameters involves checking the corpus as a whole.

2.3 The website as container

Our third example is a website on the web ² as it is regularly conceived, that is, basically as a container understood as an ordered series of contents. I represent this in Fig. 4a as an ideal basket in which the pages are indicated by columns of different colors, each consistent in itself.

The container is certainly a "whole," but the structure is made explicit in a way that remains at the surface, as in a supermarket (Fig. 4b): when we "visit" a container, such as a supermarket, we are not interested in the whole, but only in a particular element, which may refer us to another element inside or outside the container, with no structural links.

It is interesting the vocabulary that has come into current use, such as "visiting" or "surfing," and with English terms that have now been assumed in Italian such as "surfing" or "browsing," which emphasize the occasional dimension of the approach: "surfing" means staying on the surface being carried by the movement of the wave without any interest in the depths below; and "browsing" means grazing here and there, casually, that is, sifting through a text always going straight to the fragments. The supermarket metaphor defines these attitudes well: we know that a website (like a

² A website does necessarily not have to be on the web, but in practice this is the only way a site is used.

supermarket) is well-stocked, and thus that there is a totality as far as inventory is concerned. But it is not this inventory that we are interested in, it is only this or that data (or product) that we are looking for; once we find it, our interest in visiting the container, or supermarket, fades.

There is another aspect that tells us about a perception of the whole in a website, and that is the aesthetic dimension. We expect consistency within each site, we expect the aesthetic to remain the same throughout "the whole" site. We have an immediate perception of this aesthetic dimension of a site by opening a page, and one is more or less incented to continue the "visit" also by this aspect, as well as by the need to find that particular detail that interests us. Here again the supermarket metaphor fits well: we are more or less incented to visit it depending on how welcoming we find it, because this serves as an index, even if only implied, for the quality of the products.

2.4 Imbalances and rescues

These mechanisms serve only partly to mitigate the effects of the dislocation that results from the progressive loss of a sense of the whole, and this has led to major disruptions of all kinds and at all levels, from social to cognitive and neurological. As examples of a rich literature in this field I will only mention Wolf (2008; 2018) who targeted especially the effect that the progressive loss of a deep reading ability has had on the neurological system of children (see also her contribution to this volume), and Demichelis (2020) who addresses the impact on large political and economic systems.

One source of these imbalances lies, in my view, in what I have referred to as the loss of the sense of the whole, and this is because the digital websites we use give a prevalence that is in effect exclusive to the fragments without any interest in the value of the whole seen as wholeness, that quid that is beyond the sum of the parts. This dimension is not denied, and in fact it always remains deeply present in the background: the customer of a supermarket is not interested in the inventory as a whole, much less in the economic theories that justify the very existence of the supermarket; it is the supermarket manager who takes care of it, and in a certain substantial way. Similarly, the user, as he or she is increasingly defined, the "user" of a networked site is increasingly being directed toward the fragment.

It is thus that we do not "read" a site as we do not even "write" it. The activity of writing and reading precisely involves the sense of an argument that starts from a premise and comes to a conclusion, thus of a whole in which the parts converge toward an ultimate and shared end. What is proposed when imbalances are highlighted is to reduce the use of the digital and return to giving more space to pre-digital epistemic systems, that is, the printed ones. This is for sure valid. But the reverse is also possible, and indeed necessary, to develop at the same time different ways of "writing" and "reading" a website and thus arrive at regaining the central idea of the whole even in a digital key.

3 The Archaeological Reason

To this aim, I propose to look at archaeological excavation in a paradigmatic function in two ways.

The first (3.1) refers to the fact that fragmentation is inherent in the original disaggregation of data and is brought back to unity of meaning through the application of a rigorous categorization system. In contrast to the examples we saw earlier, in this case the fragmentation is original, which is why we can speak of a "native" or intrinsic digitality to the data.

The second (3.2) refers to the fact that for the cultural material that emerges in most archaeological excavations we have no living witnesses of that cultural tradition. It is a matter of reconstructing through in-depth distributional analysis categories of meaning that we can plausibly attribute to the original bearers of the culture today no longer able to speak of it in person.

In both cases, digitality is indispensable. We can say that archaeological excavation was waiting for the advent of digitality to do full justice to the findings made. These are also the two cornerstones of what I have called "archaeological reason": it is a matter of seeing how to trace back to original perceptions that had conditioned a view of reality but of which we no longer have evidence or even control. And the explicit reference to "reason" in the Kantian sense is not accidental: see in particular the digital monograph in <u>critique-of-AR.net/Kant</u>.

3.1 The original digitality of archaeological data

The specificity of archaeological research, that is, what no other discipline aims for, is the comparison with the arrangement of finds in the ground. Fig. 5 gives an example: these are fragments of sealings on clay found in the accumulations on the floors of the <u>Royal Palace</u> of Urkesh (ca. 2300 B.C.). They are extremely small and fragile, and at first glance insignificant. But extracted from the ground and analyzed they reveal (Fig. 6) a complex entity, iconographically and historically, that can be framed in a broad typology (Fig. 7) pertaining to the royal court. And the stratigraphy (Fig. 8) tells us of a chronological sequence spanning a full millennium (the sealings come from the lowest layer). Stratigraphic links with other cultural material found in the same accumulations broaden our knowledge of this material to dimensions, such as a particular cuneiform tablet (Fig. 9) that opens for us a critically important window into the use of the Hurrian language in palace administration. And this palace is slowly coming out of the ground in turn in its impressive architecture (Fig. 10).

It is useful to highlight these details that tell us about the technical difficulties of exercising full control over the excavation. Consider that only in a small unit within the excavation in Fig. 8 we have a total of 61,082 sherds, 1,138 objects, and four and a half million observations recorded by the excavators. So by original digitality I mean that the

original find is only that of data divorced from any social context that can tell us about the meaning these data had. The only context we have is that of soil placement, where they arrived through depositional processes of all kinds, and certainly not designed for those who would excavate them more than four thousand years later. They are digital precisely as figures waiting to be reassembled into unity of meaning, into the "whole" that stimulated the re-shifting of those who, from these fragments, fed and lived.

Archaeology thus proposes itself at first only as a scattered collection of fragments, which ask us to be recomposed into a whole, or into various "alls," such as the iconographic, historical or architectural one to which I have alluded. Our task is to recover a living tradition, which time seems to have inexorably interrupted.

3.2 Broken traditions

In a case like that of our Urkesh excavations, "time" is calculated in millennia. But in fact this "interruption" can refer to very short lasses and can even apply to living traditions. It is in this sense that the notion of interrupted tradition, and archaeological reason, transcends the moment of archaeological excavation.

It is at bottom a problem of hermeneutics.

A living tradition confronts the data of reality and interprets them according to canons that are part of the mental structure of those living in that tradition at that particular moment. It is possible that in our own individual lives we may reach a point where we confront a moment in our past as if it were a dead tradition: we no longer have the baggage of canons that had created in us the sensitivity to understand from within a phenomenon of our own past. We can rediscover this baggage with an archaeological reason. In any case, what we want to do, as with a past as remote as that of ancient Urkesh, is to get to reconstruct precisely those canons that had conditioned the original sensibility.

Let's think about the phenomenon of language. We talk about dead languages, but clearly language was a living organism, very much alive, and who died was the last speaker of that language, that speaker for whom it was his mother tongue. The canons, that is, the grammar as well as the lexicon, were an integral part of his sensibility. Of that language we have the fragments, but given an adequate inventory of written texts, these fragments can be reconstituted in such a way as to give us back the language as that whole that guided the sense of the ancient speakers.

Digitality offers us not only a possibility of control over these fragments immensely greater than is otherwise possible; it also gives us the possibility of an entirely new dynamic in the development of logical reasoning and the argumentation behind it. The goal remains to get to the whole.

4 The Digital Discourse

How then, concretely, to come to reconstruct this whole from the fragments? We return here to the remarks made earlier about the concept of fragmentation. From what we have seen we can distinguish three different modes:

(1) the printed text that is presented as a whole that is fragmented for the purpose of analysis but retains a unity and integrity of its own (2.1 and 2.2);

(2) the digital text that serves as a container where fragments are aggregated into the fact – like spreadsheet or networked site, where a sum is always implied that is not properly conceived as a "whole" (2.3 and 2.4);

(3) archaeological excavation, which presents a particular challenge in that the data are originally fragmented ("digital") and invoke reconfiguration into a "whole" that corresponds to their original meaning (3.1 and 3.2).

We must now see how to respond to this last "invocation" – and the proposal is that of digital discourse as it can be applied in a networked site.

4.1 The website as epistemic system

An epistemic system serves to articulate and communicate knowledge. Therefore, it is not only about information, but, in addition to this, narratives that develop an argument. And in this regard, we have not yet taken full advantage of the potential of the networked site.

The current conception of the networked site is that of the container (2.3). It is, yes, an epistemic system, but limited to containing information that can be collected in a wide variety of ways, relying on an endless universe of data. It is also possible to relate these data to each other, but the epistemic act as such, that is, relating the data to each other as fragments in order to arrive at a whole that makes sense of them, this act is not inscribed in the networked site as a system; it is left entirely to those who "use" it.

The latent strength of the networked site lies in its multiplanarity (Fig. 11). Already the site as container (Fig. 4) is seen as a plane that stands in dynamic relationship with other planes; and some of its cells can be connected with cells of other planes. But there are two important limitations in this model.

First, the planes are not conceived as complete structures in themselves. They are not, that is, "all." They are pages within a site, or parallel sites, that remain open to additions and changes that have no impact on the structure of the pages or parallel sites. This is indicated in the figure using dashed borders.

Second, the plans are not designed as a function of each other and are completely heterogeneous with each other. This is indicated by using different shapes of planes and cells. To fully exploit the potential of the networked site as an epistemic system, we need a model that takes into account these two limitations and offers ways to overcome them.

4.2 Inter-planarity and multilinearity

This is the goal of the <u>Cybernetica Mesopotamica</u> project, which is largely already realized in the <u>urkesh.org</u> website. There are three main features: the first two relate to the limitations we have just noted; the third indicates how to go beyond the concept of the site as a container.

(1) The site consists of a cluster of sites, or "digital books." Each of these books, and, of course, the pages contained therein, are organic, well-defined "alls," with an explicit statement of the boundaries within which the site is enclosed. Consider how the idea of a preface or conclusion is aberrant in current thinking, and how instead it should be an essential part of a site properly conceived as an epistemic system.

(2) Sites and pages are entities structured from the outset as a function of each other, interdependent both formally and conceptually. There is thus a deep integration between pages and sites: this requires special care in "writing" networked sites, and, even more so, clusters of networked sites, of this kind. It involves having an awareness not only of the structure of each site, but also of how the topic developed in one site relates to that developed in another.

(3) Each site proposes a narrative that builds on this interdependence with other sites, thus giving ample room for the development of a properly digital argument. On this it is necessary to pause for a moment.

Figure 12 graphically represents this situation. Plan A corresponds to the site dedicated to the excavation of that particular unit and develops the argument concerning the process of finding data in the ground. Plan B corresponds to another site that is devoted to the typological, iconographic, epigraphic, etc., study of sealings of the same type. Plane C corresponds to a site devoted to the palace in its architectural case, and thus to the social and historical context in which even the smallest fragment described in Plane A fits.

The figure illustrates the concept of multilinearity. Each argument follows a logical thread and is therefore linear in nature. The argument that is developed in static epistemic systems (such as a printed book) is strictly linear: other arguments are invoked, and other data are cited, as is particularly the case with footnotes; but neither these arguments nor these data are integrated into the basic linear argument.

In contrast, the concept of multilinearity applies to a dynamic epistemic system that succeeds in developing a linear argument where multiple planes, and thus multiple linear arguments, viewed competitively, converge. The arrows in Figure 12 indicate, schematically, how this occurs. Following the argument as it develops within plane A, the sequence requires that steps c-d be borrowed from plane B, and steps f-g-h from plane C. These passages are an integral part of each of the plans, and this is possible because the plans are all "written" concurrently, where each plan is "aware" of the others. This is

a type of narrative that is properly digital and is not possible otherwise.

The concept of non-linearity, which is widely employed, is indeed indicative of a reductionism that, while most useful when one just wants to peruse a site, so radically affirms the role of the fragment that it excludes, in effect, the very possibility of getting to see the whole.

It is interesting to look at a pre-digital approximation of the epistemic system we are talking about. Figure 13 depicts a machine designed (and never built) in 1588 by Agostino Ramelli, a reading wheel that creates a kind of physical multiplanarity. A dynamic element is thus introduced, in that planes are physically accessible at the same time. But clearly, there is no conceptual integration, because the various planes are not "written" as a function of each other.

The concept of inter-planarity thus refers, on the one hand, to how the planes are integrated with each other, we might say "interlaced." The concept of "multi-planarity," on the other hand, refers to the existence of multiple planes that are not so integrated let alone conceived and structured as a function of each other.

5 Humanism for Human and Social Sciences

The "whole" of which we speak is not a solid, static block. It is rooted in fragments, which, however, acquire a new life once they are organically integrated into a discourse that dynamically shows their interdependence. The fragments are more easily controlled, which is why they lend themselves well to the kind of approach that is typical of the humanities and social sciences, not to mention the exact sciences.

We have seen how in archaeology the whole is no longer (immediately) perceptible, so we are confronted with interrupted traditions. The effort to overcome the interruption, to heal, as it were, the wound resulting from the loss of living bearers of the tradition, this effort is based on that "archaeological reason" which in effect applies to any research tending to see the engine that gives rise to culture and enables its fruition.

For the social sciences, on the other hand, the whole is always perceptible: those who deal with economics or politics deal with living structures, and thus always have the whole in front of them. In this case, fragmentation is performed on the living body because one wants to implement an *epochè* that permits distance from the data. But it is never a "necropsy," that is, an autopsy on a dead body, because the body is alive, and one must always come to terms with the whole.

Instead, the danger of the human sciences is precisely that of arriving at a necropsy. There is no doubt that maximum use must be made of technique – and archaeology is a very rich training ground in this regard. But not to the point of obscuring the ultimate importance of fruition. Humanism, in its most genuine form, brings us back to the human dimension, and in this it can and must contribute, as it has often done in the past, to point the way for the social sciences as well – and for the "humanities" or the "Digital

Humanities" as it may be called. It is the road toward a greater appreciation of the whole, to which we must be open even when it seems to erode our ability to control. The whole requires openness rather than control, and digitization can serve, to the extent I have indicated, to foster precisely both, control of the fragments and openness to the whole.

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For an annotated bibliography I refer to my site <u>d-discourse.net</u>. [accessible thus far with ID and PW <discourse>; the website will be open by the publication of this volume]

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Captions to figures

Fig. 1 Cuneiform inscription in Hurrian on a seal of queen Uqnitum of Urkesh (2300 B.C.)

Fig. 2 The incipit of the Gospel of Matthew in the digital edition <mark>on Perseus</mark> (<u>https://www.perseus.tufts.edu/hopper/text?doc=Perseus%3atext%3a1999.01.0155%3abook</u>

<u>%3dMatthew</u>)

Fig. 3 Illustrative diagram of possible variations within an electronic spreadsheet

Fig. 4a Graphic scheme of a website designed as a container

Fig. 4b The shelves of a supermarket as a parallel to a website designed as a container

Fig. 5 Sealings in an accumulation above the floor of the Tupkish palace at Urkesh (2300 B.C.). Each label gives the number of the sealing later extracted from the matrix of soil where it is located.

Fig. 6 Sealing detail: comparison with the hand illustrates its very small size, and the drawing shows (in red) where this detail of the sealing is located when seen together with other sealing fragments

Fig. 7 Typological series of the seals of various members of the court of king Tupkish

Fig. 8 Stratigraphy of a small portion of the excavations at Urkesh. The lower level is that of the palace of Tupkish where the sealings come from

Fig. 9 A cuneiform tablet in Hurrian showing how this language has been fully adopted in the administrative system of Urkesh

Fig. 10 An overview of the administrative sector (in green) and (in yellow) the excavated part of the formal area of the palace of Tupkish (2300 B.C.)

Fig. 11 Schematic representation of multiplanarity in website understood as a container

Fig. 12 Schematic representation of a multilinear argument unfolding in parallel planes

Fig. 13 The reading wheel in Agostino Ramelli's drawing (1588)





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2	0.05	2	0.05	Cassius Dio Cocceianus, Historiae Romanae
4	0.128	4	0.128	Polybius, Histories
38	1.242	38	1.242	Flavius Jo-sephus, Antiquitates Judaicae
4	0.134	4	0.134	Aristide,s Aeliu,s Orationes
4	0.138	4	0.138	Strabo, Geography
2	0.07	2	0.07	Oionysius of Halicarnassus, Antiquitate-s Romana,e Books I-XX
2	0.429	12	0.429	Athenaeus, Oeipnosophistae
2	0.452	12	0.452	Athenaeus, The DeipnosophisU
I	0.046	I	0.046	Pausanias, Description of Greece
26	1.353	26	1.353	Oodorus Sicilus, Library
L	0.056	Ι	0.056	Oio Chrysostom Orationes
3	0.205	3	0.205	Başil Saint Bishop of Caesarea, Epistulae
6	0.435	6	0.435	NewTestament
6	0.479	6	0.479	Flavius Josephus, Debello Judaico libri vii
37	3.044	37	3.044	Oiodorus Siculus, Bibliotheca Historica, Books l·V
6	0.513	6	0.513	Appian, The Civil Wars
I	0.089	I	0.089	Is.ocrates, Speeches
6	0.541	6	0.541	Diogenes Laertiu-s, Lives of Eminent Philosophers
3	0.28	3	0.284	Appian, The Foreign Wars
17	1.706	17	1.706	Eusebius of Caesarea, Historia ecclesiastica
I	0.113	I	0.113	Plato, Republic
I	0.119	I	0.119	Philostratus the Athenian, Vita Apollonii
5	0.63	S	0.63	Oiodorus Siculus, Bibliotheca Historica , Books XV!11 · XX
I	0.128	I	0.128	Plat,o Craylus Theaetetus, Sophist, Statesman

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drop-down menu









king

queen



courtiers















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stratigraphy



history





