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Computerized transcription of the Assembly and Commissions reports:

the italian Senate experience

SCRIVERE *QUASI* LA STESSA COSA

TO WRITE *ALMOST* THE SAME THING

by fabio angeloni

In the subtitle of this report there is certainly "the echo of Eco". I refer to Umberto, obviously, whom most of you will undoubtedly know, at least in one of his various professional appearances. Recently he published a book entitled "to say *almost the same thing*", where he describes the complicated problems that face translators in their work. Therefore, I decided to subtitle this report "to write *almost* the same thing" because in that short and apparently insignificant word, that is to say *almost,* I believe lies the essence of the great commitment that world-wide shorthand reporters lavish every day in the editing of their work. Without misinterpreting the speaker's thought, for someone the aim is getting in a text "the essence of the moment"; others prefer to use the

technique that inspired, as he the artist used to claim, Michelangelo's sculptural art, by simply "taking away what was unnecessary" of the marble slab; others, according to Mark Twain, believe that "the difference between the right word and the *almost* right word is the same that runs between a flash of lightning and the winking light of a firefly" and they are always… in search of enlightenment. But each of us is affected by logolatry, that is to say the adoration of speech language, and believes in the magical significance of words.

It's almost 18 years that I am part of the big world of shorthand reporting, I'd like to say in a very propulsive way, having founded in 1990 the italian association of shorthand reporters and afterwards, in 1999, the parliamentary shorthand reporters association. I'd like to transmit the important experience I lived out in the last few years, that has proved how important the will of change and the resolution in putting that will into act, even in the context of high profile sectors, that would otherwise willingly confine themselves within the soft boundaries of a self-referenciality.

The italian Senate is an ancient institution that holds in his very name the figures of its characteristics: Senate, *senex*, senior. It is the so called "High Chamber", which,

together with the Chamber of deputies, in the italian legislative system, concurs to the process of producing laws but, unlike the latter, is composed by elected ones not under the age of forty. If we should speaking in effecting images - that could appear to everyone, especially to a constitutionalist or a politician, a pure nonsense (as it is in fact) -, it's the Chamber where the experience and contemplation of the members can result in a better work done by the other parliamentary branches. Obviously, things are completely different in reality since, as everyone knows, a "perfect" bicameral system is in force in Italy so that this function is delegated, time after time, to one or the other parliamentary branch. In any case, I believe this "forced" picture helps to represent the idea, as well as being perfectly functional to my reasoning.

It is perfectly clear, then, how difficult it would be to introduce any change inside a structure that put in the past experience and tradition at the bases of its own existence. Like in several administrations, since many years, the rules in producing both summary and shorthand reports "lay" appeared almost unchanged to the memory of the employees that, generation after generation, went on reproducing them iteratively with diligency, skill and a particularly refined result.

Besides, in the past, parliamentary responsibles were applied to this function, for what concerns both summary and hansard reports (this last one could be seen, starting from a *verbatim*, as an exact reproduction of what has been said).

I'll start from Jack Welch's point of view, until not long ago chief executive officer and president of General Electric, one of the biggest conglomerates in the world and to whom the magazine Fortune has quoted the following phrase: "You must talk of change every single second of the day".

Obviously, as it happens in all organizations with a strong tradition, employees believed there a very few comparison terms to evaluate their job, which in our case was represented by the Chamber of deputies, where, for what specifically concerns the hansard report, worked an Assembly team made up of 15 reporters, that dictated their report to highly skilled typists. With an Assembly team traditionally limited to only 8 reporters applied to the Michela stenographic machine, the Senate operators believed their work was at its best and that there was nothing to modify since the refinement work put into practice by the foregone reporters generations had by that time reached its maximum efficiency.

The computer literacy wasn't of course particularly high, since the employees of the moment were engaged in times when the main working instrument was the typewriter and computers were still considered sofisticated "tools" for calculation fans.

The Department, formerly called "of reports", now named "of reports *and institutional communication*" is, in terms of numbers, the second in the Senate, with about 120 employees. In the past the products of that Department, the shorthand and summary reports, were indeed the only form of communication of an Administration that, significantly, is part of the "Parliament", a place where the words usage it isn't certainly a secondary matter.

This is the picture that had to work for the management of the Department, that after a few months of careful observation, once that the complex mechanisms of operation of the Department were clear enough, decided to proceed totally innovating and putting in action a so-called "win-win" strategy (that is to say, a strategy that aims the victory for all the subjects that take part in it) that operates on a "triple" plan: the organization; the tools; the products.

The reorganization of the Department represented perhaps the most delicate part, as it was necessary to demonstrate the groundlessness of two famous Murphy's rules:

the Peter principle, that says that in a hierarchy every member tends to reach the actual greatest level of incompetence, and the law of Cornuelle, for whose the authority tends to assign tasks to those that are less capable of developing them.

The past organization expected a perfect interfunctionality among the employees: every worker was in the position of developing the functions of everybody else, but for some peculiar exceptions. Once the difficult decision of letting the reporters take on again the task of drawing up the summary report (how I said, "summary" of the interventions carried out in the Chamber), to develop such function was permanently assigned a small, but harmonious team: 4 operators and one coordinator. This first "chosen" unit was the starting point for a change of mentality in that category, that had to face a new and appealing challenge, whose result could represent the litmus test for the future. Such a demanding experiment, either for the professionalism and the preparation of the employees, or for the capacity of the management to direct the change, fortunately has had a positive result.

This situation pushed the management to carry out an even more ambitious step: to split the reporters in two teams, one applied to the activities connected with the Assembly and the other to those concerning the Committees. That change would inevitably imply a greater rigidity, but in the mean time the considerable advantage of

specialization. The benefits resulting from the specialization of operators than inevitably in the end would master the varied sectorial languages in use among the different Committees; equal benefits would come about in Assembly working group in terms of a greater custom in facing and resolving matters regarding the application of the complex parliamentary procedures therein provided. A sort of person in charge for every Commission was identified that, besides participating in all sittings, carried out the proofreading of the colleagues' turns that went occasionally to work in that place; also the Assembly team had a small unit of proofreading.

Another small group of colleagues was assigned to the so-called "enclosure of sitting", a product rather complex that gives account of the legislative texts and of the results of the votes.

After a short time the team involved with the summary report take in charge even the so-called "ticker", a sort of "agency flash" that informs about the argument dealt with during the sitting, and of the communiqué for the end of sitting, a sort of elaborate abstract that relates synthetically on what has happened, available from the moment in which the sittings closes.

The tool that was at the hearth of this revolution is very new, or rather new, or better said centenary: I refer to the Michela, the steno machine to which the slogan of a well-known firm of crystal ware: "the future comes from a rich past" would suit perfectly. Those who operate in this area know well the Michela, because it has been one of the first steno machines to be conceived and one of a few to survive the shift of over two centuries.

Walt Whitman used to say: "Simplicity is the glory of expression". This is true in regards to our everyday work, but is also and above all the cornerstone that inspired the Michela creator: 20 keys only slightly modified if compared with the user friendly for excellence interface, the piano keyboard. The flattering results achieved in a national and international sphere confirm the brilliance of such intuition.

After the Michela of 100 years ago followed a total mechanical updating entirely re-engineered and the first electric machine in 1980; a little later a first, innovative electric model was created; in 1990 a re-engineering took place. Eventually, the present project stepped into the limelight; more than a simple machine, a very small and light keyboard that interfaces itself to the computer using the very spread MIDI protocol, the standard protocol for musical keyboards (could it be otherwise?). Such innovation, moreover, without changing the Michela method, allows to produce a keyboard at very

low costs, starting from whatever musical keyboard of good quality. The price to pay is the absence of the paper strip, that, nowadays, has mainly the function of materially safeguarding the shorthand notes in case of computer misfunctioning; it becomes therefore of vital importance to have an adequate means of backup at disposal, like, for example, the recent PCMCIA hard-disks, that could be replaced by microscopic but spacious solid state memories. In the coming future it is likely that it will be choosed to take advantage of wireless communication net, dedicated and cryptographic, that will, in a converging way, make use of different technologies such as UMTS, Bluetooth, Wi-Fi (wireless fidelity) and open spectrum, or even radio free and ultra wide band (developed by the most well known microchip producer).

The keyboard Michela is therefore at present a special device of input, that has necessarily to be used together with a computer (even better with a tablet pc) and a transcription program. For what concerns the latter, different solutions were tested, from italian dedicated programs to different softwares of foreign production. After different tests, the most convincing solution appeared to be the product of one of the most important american manufacturers. This transcription program could interface itself with any steno keyboard (whatever the language used). It resulted to be capable of "totally

eclipsing" the precedent products, owning important characteristics the cannot easily be found in similar programs: an easy user interface; potential of expandability, the possibility of introducing dedicated grammatical rules; advanced artificial intelligence management of conflicts; conjugation of prefixes and suffixes on the basis of spelling dictionaries; sound and video recording synchronized with the text; possibility of splitting the text and audio file between more realtime scopists and so on.

At the end of the XIII legislature within some permanent Commissions some live experimentations of the aforementioned program were carried out with large success, making it possible with only two reporters (one writing shorthand and the other applying as a realtime scopist) to return a verbatim record of the sitting at the end of it and the revised report, including all procedural, formal and substancial corrections, after about one hour since the end of the sitting. Particularly, the flexibility of the system was appreciated and its adaptability to all the different contexts in which the hansard reporters are called upon.

During the parliamentary work pause between the XIII and the XIV legislature, the decision of organizing a professional training aimed at practising the program was taken, held autonomously by a group of a dozen reporters (putting in action a sort of

cross fertilization), in which it was possible to exchange basic computer science elements and notions in order to use the program instructions, to create several general dictionaries and to implement grammatical and lessical dictionaries for the italian language. As long as possible, it was put into practice the principle that allowed the spreading of Internet: "share what you know; learn what you don't". At the end of the training, the majority of participants decided to adopt the new method, that involves the removal of a specific part of the traditional way of producing the report, that provided: the writing of the steno notes, their dictation to a typist (that transcribed them to a computer) and the text editing (that included a check of all sources, even the legislative ones, and the insertion of the necessary parliamentary procedure). The dictation phase was therefore eliminated, determining automatically the advantage of having a digital recording of the turn synchronized with the text, thus bringing a clear advantage in terms of savings for the Administration.

This positive experiment produced considerable, immediate and visible benefits in the unwinding of the daily activity and in the speed of delivering the turns, that convinced the political and administrative management of the Senate, at the highest level, that the time was due for announcing a training, and then a competition, for shorthand reporters that was to be carried out using the Michela keyboard interfaced to

such software. The pre-selection for accessing the course, which expenses are in charge of the Senate, represents an interesting opportunity for those citizens who hold the requested university degrees and is due to take place next week: Good luck to our future colleagues!

Simultaneously to the development of the Michela technology interfaced to the computer the Administration decided to test the most spread voice recognition softwares. With such task, all the reporters were invited to create a personal vocal profile and to use sometimes these programs in their daily work of dictation. Also vocal softwares, as known, have evolved in the last years: the first versions needed, to work properly, a dictation carried out "detaching" the words (isolated words); the last versions, instead, are capable to interpret the continuous speech. As for steno transcription programs, to improve the recognition level, specific vocal dictionaries were created on a parliamentary base.

The above experiments, carried out with the task of a possible future overcoming of the daily work procedures (dictation to a typist of the steno notes) enlightened benefits and againsts of both technologies.

For how much it pertains, particularly, the steno transcription programs we can emphasize, as qualities: the considerable versatility, that, in relation with the actual circumstances, let the user adopt different work modalities (individual reporter, individual reporter + scopist in the same place, several reporters in the floor + a scopists pool in a different place linked via Intranet or intranet); the high velocity of verbatim report production, that, if necessary, can be published during the session; the additional services offered, like the audio/video synchronized recording, useful in case of possible disputes, and the automatic indexing.

From the point of view of disadvantages, it's necessary instead to underline: the greater specialization requested regarding writing speed and precision, compared with the usually requested reporter skills; the time needed to adapt generic dictionaries to personal writing styles; the limited usefulness in case of ungrammatical speeches that require to be totally rewritten.

Between the positive appearance of the vocal technologies, instead, can be emphasized: their extreme user-friendliness, also for users with very low computer literacy; the reduced training time; the possibility, cause the turn must be dictated, to change interventions also in a very radical manner.

The disadvantages to be noted are: the not yet perfect recognition of the language, that, for the italian language, still shows difficulty on very short words (for instance, articles and simple prepositions) and on words with similar sounds (e.g. Iceland and Ireland), this determines sometimes rather sneaky recognition mistakes, very difficult to find without listening again to the entire dictation; the necessity to dictate in enough quiet environments; the health conditions of the user that must not determine significant variations in the voice tone and intensity; the considerable fluctuations in recognition quality, in a very close relationship with machine configuration and setup quality of the microphone and its position. Regarding voice recognition softwares, perhaps an enhancement of their general capabilities will be achieved if the audio-visual speech recognition technology, recently announced by the above named microchip producer (that points to improve the quality of the vocal recognition using, as an aid, lip reading), will keep his promises. However, rises spontaneous the following question: will also be necessary special microphones with built-in microcamera and spotlight?

At any rate, our Administration considered this technology already valid for the compiling of assembly summaries, also evaluating the most limited and potentially homogenous vocabulary used in this field.

About the possibility to use such technology "professionally", inside a structure that works without interruptions (therefore, not for short sessions), with a considerable work volume and that must transpose a specially rich terminology, like that of hansard reports, the judgment results difficult at present.

On this matter, moreover, I must declare my difficulties to express a more specific judgement because of my wife who, after a working period passed at the National institute of the social security, as a manual shorthand reporter, became a Michela reporter at the Senate and it's a bit of time that she utilizes, for the dictation of her Committee turns, the functionality of the program produced by the firm whose acronym letters follow in the alphabet those of the unforgettable red fish-eye HAL 9000, the talking computer of the Stanley Kubrick "2001: Space Odissey" film. In my case, however, the program seems to undergo (perhaps is a problem due to the italian language) at least the consequences of a speaker dependent and not context sensitive architecture.

Rather than dwelling on personal experiences, I would like to quote the opinion on the state of the art expressed by the knownest representative of this area, in the course of a lecture he gave past january 31st at the italian Senate, of whom report transcription I have personally concurred with. I'm referring to Bill Gates, the operating system MS-

DOS and Windows inventor, chief of the largest software firm of the world, who declared to the high offices of the italian State: "Another area that we and others are investing in very heavily is speech recognition. Speech recognition is something that has proved very tough to do. And our respect the way the human hear and brain work just rises if we realize how tuff that would be. But also during this decade, I think, speech recognition would be something that we'll solve because of the billion dollars of research that have been put into it".

Therefore: good luck also to you, Bill!

Lets now examine the present changes of the products.

How is well known, with the necessary time available, everyone could produce "the perfect report". Perfect for the author, obviously. Our experience, however, shows us that the same report, also in the case it could be dismissed in a "perfect" form, could not be considered so perfect (and, invariably, this happens) by the proofreader, due to differences in experience, culture, sensibility, writing style and so on. Proofreading, as we know, it's not easy at all and with regard to this aspect has to be considered that everyone "*writes* almost *the same thing*" that is pronounced: in fact, with regard to

different accuracy requirements depending on circumstances and desires of the speaker, hypothetically, could be arranged two visibly different reports from the same speech.

With special regard to the Parliament, any reporter and proofreader is constantly faced with the decision of when a rational and substantially verbatim or an almost complete verbatim report is appropriate, depending on the context and sensitivity of a situation. With increasing media attention, that decision is more often of concern to the reporter and becomes more crucial. As a guideline, we can remember the classic hansard report definition expounded by Sir Erskine: "(...) though not strictly verbatim, is substantially the verbatim report, with repetitions and redundancies omitted, and with obvious mistakes corrected, but which (...) leaves out nothing that adds to the meaning of the speech or illustrates the argument".

We can finally consider "the" true revolution: Internet. Firstly, the net of the nets has become for our work, since its first appearance, an easy way to find useful news; secondly, however, it has become immediately a problem: in fact, in Jeremy Rifkin's "*the access age*" more and more often, a work not available on Internet is considered useless, as not widely usable. Also the italian Senate, therefore, has warned the necessity to publish hansard reports on Internet, almost in realtime. Well, is now several years that

we dismiss our hansard report and summaries on Internet, very close to the end of the speeches they refer to. But this simple requirement determined, as a matter of fact, the necessity to resolve difficult problems inside our Department.

From my point of view, in our work two requirements constantly face themselves. Inevitably, in fact, from one side of the net, we are considered the typical operators who contribute to produce the "data smog" reported by David Shenk, who gives advice in his *"surviving the information glut"*, but, in another side of the net, stand also subjects affected by "anxiety of information", that Richard Saul Wurman speaks of effectively, that comes when the information does not say what we want or what we need to know. A good way to reconcile the two requirements is to produce quality documents. But a production like this requires time, the same time that is being denied because the reports have to be immediately available on the net. Well then, exasperating a little, our profession also resides in the attempt to realize this difficult compromise, useful to keep under control the two anxieties: those who await the information and those who don't want to publish it before having finished it off in the best way possible. Moreover, recently was also tested a "double line" solution that try to follow the two roads simultaneously, distinguishing the "publicity of the activities" (entrusted to a draft "journalistic" style report, available in very rapid times) from the "publication of the

debates" (entrusted to a more traditional hansard report, available only in a second time, in which, beside the correction of formal imperfections, are contained also all the textual and normative references).

Certainly, we find ourselves in a very different condition from that of the novelist of the classic mysticwho we like to imagine in a mountain hut, drawing his inspiration from the sound of the sweet flowing of a mountain stream while he sips a good, smoked taste, whisky and rods, one after another, the better words for the case. Certain phases of our work are instead really stressing and the need of a reactivity always a little problematic bring some of us, to represent perfectly the example of "Type A" personality cited by James Gleick in its "*Faster and faster: the technological acceleration that is changing our life*": I'm referring to those who, to save even a couple of seconds, once got in an elevator, hasten themselves to find and press the door closing button.

But the information we produce is considered important and of immense use: just consider that in the italian version of the present most used Internet search engine in the world the debates and the measures discussed and approved in the Parliament have an high priority of apparition.

All the transformation process, once finished, shows some obvious criticality. It is also hoped that in this case we should not experience what Soper's law foreshadows: "every bureaucracy that has been reorganized to obtain a greater efficiency becomes immediately identical to the precedent".

The fundamental critical aspect concerns the obviousness that from too much time the hansard reporting work in our Senate, 10 years ago carried out by about 50 people, is done by about a third of them, with all the problems this condition inevitably produce, useless to specify in this context.

Such problem, on the other hand, is indisputably bound to the increased responsibility of the category and to the innumerable services now offered, that, however, allow a considerable increase in the possibility to individualize a satisfactory role for everyone ambitions. At any rate, it can't be denied that present organization is based - perhaps with too much anticipation - over a too small staff (that in the short-term will be integrated) and this finally determine a certain bad mood between the employees.

The reporters' assigned "equipment", besides, it's not made to measure for the peculiar needs of the category. Only to cite some, persist the problem of x rays produced by monitors' cathode tubes (that soon, however, will be replaced with liquid crystals, fast refresh, flat screen models) and of the inevitable ozone spread of the laser printer.

There is also a certain technical matters misunderstanding. I can make a small but significant example, one for all: the need to set the screens refresh setting on values above 85 hertz (preferably 100 hertz); such simple trickiness, if not adopted, determines a remarkable eyesight fatigue, that, instead, could be considerably reduced. Regarding this matter, however, it has to be said that our category has been the first inside the italian Senate to be provided with ergonomic positionings for the proofreaders and with screens of adequate dimensions.

The truth is that, as in modern towns there is a city manager, in professions like ours, that involve a continued and intensive use of the most recent technologies, a competent and professional figure should be applied with knowledge of the case to people health related topics, with the purpose to study all the technical-ergonomical problems that inevitably rise up carrying out the different roles.

I would like to conclude observing that, whatever will be the future of our profession, either in the case the reporters (or the same members of Parliament) will have need, to produce the hansard, to transform themselves in many "cyborg" provided underskin identifier with labial recognition masks, the intelligent mediation of the man will be always requested, because (how Roland Barthes says) "the object in which

inscribes itself the power of every human eternity is the language". Considering the matter from another - provocative - point of view, is timely to repropose the cynical consideration that John N. Noch, in 1989, (almost 15 years ago), reported in "the magazine of not reproducible results": "The progress in the field of artificial stupidity will be very slow and the fruits of this discipline much disappointing; after all, no computer, as much powerful will be, will ever be able to equal the potential of stupidity of the human brain".

See you at www.senato.it & www.resocontazione.ORG

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