

moment was missed out on. And the right moment is now. Here is the overall answer to the initial global question 'what do we not know?' We do not know how to practise true religion, yea what true religion is, namely a religion of love with the only command: Love God above all and your neighbour as yourself! With this in mind you can set out on the right search of truth, because everybody will find what he is after: if he looks for trouble he will find it; if he looks for hatred, he will find it; if he looks for the Almighty, he will find his justice attenuated with mercy; because God is love; likewise if he looks for love and peace, he will find it too, just as he will find his Father with all the might of his love: *suum cuique* as the sage Stoic would say. Though Stoicism ignored love and we should know better. As Pascal put it: the heart has its reasons which reason will ignore.

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(1) A. SCHREINEMAKERS, JOS. F. (ED.): **Knowledge Management. Organization Competence and Methodology. Advances in Knowledge Management** Vol. 1. Würzburg: Ergon 1996. 307p. ISBN 3-932004-26-4; ISSN 1432 3516

(2) B. SCHNEIDER, URSULA (ED.): **Wissensmanagement. Die Aktivierung des Intellektuellen Kapitals** (Knowledge Management. Activating Intellectual Capital). Edition Blickpunkt Wirtschaft. Frankfurt: Frankfurter Allgemeine Zeitung. 1997. 207p. ISBN 3-929368-53-6.

1. To restate the trivial: Knowledge Order (KO) is always a quid pro quo. It always means the ordering of information in terms of classification, taxonomy or model towards a purpose. Doing so it follows also the qualities of the system concerned. Knowledge order always serves as an instrument for Knowledge Management (KM) within a system shaped by internal and external, physical and intangible – e.g. societal – qualities.

This introductory note is meant to put the theme into a non-guru environment and, at the same time, to enhance the importance to understand it anew and creatively. For, likewise a matter of course, the preconditions of KO and KM have been changing dynamically. Foreshortened, the information society has gradually developed into a knowledge society. No longer 'information' and information handling only (mainly by computer) supports life, survival and development. The environmental and societal system of information has a serving function and therefore has to be transferred into operationally ordered knowl-

edge networks when increasingly facing fundamental changes. The catchwords Knowledge Society, KO and KM express the necessity to reconsider also the basic, normally non-questioned 'reality' we perceive as to its appropriateness concerning our behavior, our actions and our policies. What has to be adapted – creatively – are our intrinsic pictures of our world, so that we may adapt the KO expressing them.

Closely entwined with this fundamental change seems to be the also exponentially exploding dynamity, the acronym combining 'dynamics' and 'complexity'. It seems futile to discuss whether it represents an independent factor in its own right. Dynamity affects KO and KM both as a quantitative factor and as a phenomenon that has attained factor quality and impact. In this context, however, it indicates more the secondary, the more formal conditions for information handling and KM. In this role dynamity becomes decisive when we quest the degrees ways and means to cope with (real, information and knowledge) complexity by reductive and/or value setting modes.

Lastly, knowledge has to be seen as a medium of communication and conversation, as an instrument to cope with issues, owing to its impact as a resource. KO and KM, have grown into a factor of societal coherence, of societal power, of societal change and of societal control. For quite some time now the world intelligence services have been collecting predominantly technical/economical Know How besides the traditional political information. The more comprehensive knowledge, the better fitting KO, and the more effective and efficient KM will decide on competence, position and advantage in the competitive struggles within and among societies.

The threefold approach of: a) changing the ways to understand and to act upon the world, b) meeting exponential change within growing dynamity, and c) securing the knowledge fundamentals of societal/social survival, exclude by no means the more technical side. Scientific endeavors from mathematics to quantum physics toward software epistemology (!) enforce a development to ever faster and more sophisticated computers. They enforce the use of ever more complex systems ware, hardware and software. Behind new techniques and new modes there emerges a no less fundamental development in the epistemological background. From the classical base far removed from logic has sprouted into wholly new branches to deal e.g. with ill defined, fuzzy problems. Order theory has gone all the way back to basics, e.g. number and prime number theory. Chaos has been found to be, and been corroborated, as potential order, following basic numerical orders and describing highly complex fractal structures. All this new knowledge on basic structures has if not triggered by KM, been, rather

quickly incorporated into KO and KM. The same is valid for insights into the modes of behavior, of human cognition and feeling. Radical constructivism, for example, influences classification and modelling in particular: the world within our brains and the principles which its construction/self-evolution follows shape the principles and procedures of classification, KO and KM.

2. The above frame of reference for the two books reviewed here was not by chance drawn so extensively. Both works approach their topics from a wide and comprehensive angle of reasoning and application. The first one edited by SCHREINEMAKERS contains the Proceedings of the Fourth International ISMICK Symposium held on 21-22 October 1996, at Rotterdam, the Netherlands. As the abbreviation ISMICK ('International Symposium on the Management of Industrial and Corporate Knowledge'), indicates, contributions focussed on a broad field of institutional applications. Examples from corporate practice were deliberately founded on and backed by basic theoretical considerations, e.g. on the ontological and epistemological aspects of KM.

The preponderance of entrepreneurial and industrial KM of the second contribution edited by U. SCHNEIDER lies in its title: the activation of intellectual capital. But just this economical dominance, as it turns out, calls for general and basic considerations about the nature of 'knowledge' and 'knowledge based companies'. On a well founded understanding of the 'basics' only appropriate, purposeful applications can be designed. Thus, the focus on institutional management qualifies more as an advantage than as a limitation. KO and KM are not limited, on the whole to text, text retrieval and data bases. As the related term Knowledge Engineering stresses, KM is rather to be understood as a generic, evolutive instrument, as a means for creative construction and design. Accepting the active role of KO/KM, the close relation to institutional management is per se, and in particular in this case, paradigmatic. Hopefully it may encourage even the 'classical' domains of KO/KM to transgress traditional borders long obsolete, but nevertheless often approached only reluctantly.

(1) KNOWLEDGE MANAGEMENT ed. J. F. Schreinemakers. Part I. *'Knowledge Management in Practice'* clarifies by examples what the ensuing contributions will deal with. 'KM in the Public Sector Organizations' exemplifies the trend and the actively propagated target of a knowledge-intensive national administration and a knowledge-intensive country. For attempts at such a careful realization, well-founded steps are developed. They include the furthering of participation, asking at the same time for a new management style. 'KM in the Dutch Tax and

Customs Administration...' works well, based on field studies, even on a quantitative model. Greater efficiency and competence is sought after in '...an Automation Department of a Dutch Bank', again relying on (knowledge) participation of employees.

Part II explores the *'Ontological and Epistemological Aspects of KM'* as pursued by Dutch scholars as well as practitioners, all well-renowned masters of practical concepts. Being no exception, even 'Knowledge Ontology Development' develops an exceedingly close-to-operation methodology, which will prevent later obstacles resulting from improperly made assumptions. If a pun is allowed here: the saying of a good theory being a prerequisite for good practice is confirmed here. The paper delves, e.g. thoroughly into (formal)logical, validity/applicability and social structures in order to construct a reliable, flexible frame of reference and evolution. 'Chaos and Complexity...' underlines shared language (everyday and formal) and the use of metaphors as necessary keys to the identification of value added. In consequence a metaphorical shared language of complexity will facilitate the redefining of the roles of management pursuing strategic value-added concepts with an organization practising self-organized learning. 'Business Modelling for Understanding and Change...' underlines again the prerequisite of a conceptual framework of model work: modelling the process of modelling. Here again symbolic (linguistic and iconic) representations in particular for non digital fuzzy phenomena are outlined as well as the impact of basic subjective and 'objective' assumptions and valuations. 'Conceptions of Knowledge and Information in KM' is geared to the management of incommensurability and difference as arising within and between organizations. In this reviewer's opinion, inconsistencies born from undetected gaps of this kind may well be responsible for failures in mergers and reengineering.

Part III deals with *'Information Technology Aspects of KM'*. It argues from and close to the aforementioned methodical, modelling and organization vistas: which solutions are made possible by existing technologies, and which ones are desirable judged from needs and strategies? Thus it gives technology the status of just one, and not necessarily the most important, factor for further evolution.

*'Knowledge, Learning and Management'*; *'Inter and Intra Organisation KM'* and *'Knowledge as a Strategic Resource'* (Parts IV. through VI) provide detailed aspects to the above designed framework. They aim for greater knowledge productivity through unearthing the dormant potentials of the staff e.g. by means of assessment centers. Knowledge capacity is hypothesized as being composed of information, experiences, skill attitude; distinguishing between codified and tacit knowledge. Shared organizational contexts

are recommended to facilitate knowledge understanding and knowledge creation, aiming at the basic preconditions for effective decentralization and forming virtual corporations. To acquire knowledge competence is seen as a strategic option in the frame of co-ordination, communication and long-term strategically oriented KM. Viewed from industry, the main features of 'Capitalizing Knowledge' require to identify the core domains of strategy and the respective crucial knowledge to be capitalised, in the given case.

(2) WISSENSMANAGEMENT: Ed. U. Schneider. On this meticulously elaborated KM landscape, highlights are accentuated, mostly under the auspices of political management of knowledge: to 'activate intellectual capital'. Due to the intention of the 'Edition Viewpoint Business' of the publisher (all translations by this reviewer) and to the author's business background (corporation, university, consulting) the papers focus nearly exclusively on business management. This is done, however, in a paradigmatic way, spreading conceptual and political rather than operational knowledge. To grasp the connections and the practical importance of the multi-level, multi-value approach it seems worth while first to digest the introduction by the editor; likewise the first paper, which elaborates on 'Networking Knowledge Within and Between Companies', now from the conceptual side of business management. To prevent the key resource knowledge and the key competence KM from becoming a bottleneck, strategic KM is called for: 'From Knowledge to Action and Back'. Well-defined interfaces – knowledge is both a competitive advantage and a bridging for co-operation – are termed necessary. Two elucidating examples are given: a Customer Visit Program (Hewlett Packard) and the Work Out (General Electric, USA). Interfaces presuppose deep plowing for structural adaptations. Everybody talks about the post-modern information society: but what does that presuppose, and what could, what should it mean? 'The Personnel and the Structural Side of the Intellectual Capital' attempts to gain a deeper insight in particular into the gaps, strategic, operational and not least conceptual, all unavoidable in the usually troublesome process transformation. The example given explores the well-known though little understood and even less acknowledged structural change concerning the role of manpower: its contribution to productivity and its remuneration rate. This is but one of many discontinuities arising in the fundamental change of performance structures. Together with the risks, chances emerge: will we be able to see and to use them for a new creativity, for entrepreneurial endeavors? Will we be open, by power of KM, for new vistas, for a re-

structuring of obsolete institutions? The Netherlands, e.g., are experiencing a knowledge- and KM-based turnaround not yet imaginable under the political ossification in Germany. Social envy, bureaucracy and incompetence clutching vested interests and prevent any rejuvenation, where common sense combined with KM would open new potentials.

Knowledge incorporates resources, potentials, competitive advantage, strategic base and future Returns on Information (RoI). When asking whether, when and how this foremost asset is handled, the answer more often than not is depressing (the reviewer is, among other subjects, lecturing on corporation documentation, reporting and controlling systems). What can and should be done with what KM-generated benefits is shown by the example of Andersen Consulting, one of the world's foremost globally active consulting firms. The stupendous amount and the variety of information to be processed and requested for immediate availability and disposal, world-wide and in the service of an active policy, have originated a – still – unique KM. The rough description of the system and the principles behind it can be read as a professional demonstration of the conceptual principles for modelling and design treated in the preceding chapters. To be emphasised here is the both modular and holistically conceptualized and structured design for flexible adaptation and co-operation interfaces; and, consequentially, the closely intertwined virtual structures of the micro-, meso- and macro-level. The maintenance and evolution of the system presuppose a new concept of responsibility for KO and KM. They also require, not to forget, a new measure to value and to assess the amount / percentage of 'value added' in knowledge-intensive corporations. This applies also to virtually any purpose-, or performance-oriented institution. As a measure for the latter purpose an 'Information Coefficient' is proposed and elaborated. As in the labor/capital-intensive enterprise the value added to labour and capital gain needs to be measured, information-intensive institutions (again, not companies only) have to measure the contribution to knowledge: incorporated into products, services, and into internal and external performance processes.

Bearing in mind the various contexts, processes, requests and aims connected with knowledge: what, precisely is knowledge in terms of KM? Predictably there is, no simple answer to this question. Knowledge appears superficially as a joker term to be defined and redefined as required by the actual situation and to be made operational in different contexts and with different contents and meanings. Notwithstanding current definitions it may also heuristically stand for the recognised necessity perceived and sought to resolve. It may call for new patterns of thought and



action, as a permanent challenge to re-think and reconsider traditional positions.

3. To conclude: I feel no hesitation to recommend both for reading, if possible in close succession and carefully, some chapters twice. On the surface the benefit is apparent in particular for the reader from business and institutional management. A closer look reveals the topics discussed as paradigms referring to the general challenge which Knowledge Order and Knowledge Management present. What is, by paradigmatic example, shown and what scarcely can be considered and learned intensively enough, are the quests arising for the entire range of indexing, classification and information handling in general. It is not only the rapidly and dynamically changing knowledge contexts, purposes and environments which dictate fundamental re-adaptations in thought patterns and methodical approaches. Without all the decision support made possible only by advanced KM it will be impossible to attain reasonable, meaningful and – the catchword may be forgiven – sustainable solutions. Particular requirements must be met to simulate complex phenomena and processes, as shines up in some of the contributions. Simulation and its far-reaching conditions and consequences will be, in this reviewer's opinion, the prevailing theme to be studied in the next three years, but not yet ripe for a broad discourse today.

Without underestimating the importance of knowledge-based decision and controlling support, it seems that the prerequisites for a flexible KO and long-term effective and efficient KM are not yet sufficiently appreciated. Surface solutions which leave cherished ways of thinking unmolested do not and will not suffice. It may well be learned from the contributions given that the most successful solutions in practice have been those which explored most thoroughly the (meta-)methodical, modelling and organizational/structural and communicative/conversational principles. KM is also concerned by the modes for operationalising knowledge acquisition. A closer look into up-to-date knowledge handling proves most advisable. KM will have to perform in new institutional and social environments, adopting new attitudes and new measures for the contributions, performance and remuneration by and of personnel. The domains where KM is applied have already partly taken over the activities of research and exploration: business and societal institutions, even public administration. Their endeavors should be met by supporting efforts from the new knowledge and order sciences. Information sciences should not hesitate to transcend traditional borderlines in the direction of institutional application.

Both books provide excellent support and interfaces for further extended studies.

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SCOTT, MONA L.: **Conversion Tables**. LC-Dewey, Dewey-LC. Englewood, CO: Libraries Unlimited 1993. VIII, 365 p. ISBN 1-56308-017-6 (Print version), ISBN 1-56308-152-0 (Disk version)

There are two possibilities to establish compatibility between two classification systems: on the one hand by comparing the systems with each other and relating to each other any existing concepts having the same or a similar contents, and then representing the results according to the systematic order of one or the other system. On the other hand, compatibility between two CS can be shown to exist if one correlates the results of the classification activities, the so-called classates, of a system A with those of a system B with regard to the contents of a certain document.

This latter possibility is employed by the Conversion Tables of Mona L. Scott, prepared by her with the assistance of Christine E. Alvey. These Tables were meant primarily to serve Scott's own needs as she said in her Introduction, that, in her US Bureau of Census Library she "was frequently frustrated by the lack of Library of Congress call numbers on non-LC MARC records available from our cataloging utility. My staff had to stop the routing copy cataloging process in order to identify a call number. I began a search for a conversion manual to assist the Cataloging Department, and the only one I found was twenty years out of date, incomplete, lacking any subject reference to the list of class numbers, and was limited to class-numbers downloaded from LC MARC records. I decided I would create a cataloging tool that could be a standard reference in any cataloging department for daily copy cataloging activities, as well as massive projects of converting from one class system to the other ..."

Now, the results look as follows: In two columns per page, one will find next to each other in Pt. 1 the notations of the Library of Congress Classification (LCC) and the Dewey Decimal Classification (DDC) as well as a "descriptor", which, apparently, is the verbal equivalent of the notation of the LCC only. In Pt. 2 the notations start with the DDC, followed by the LCC and again the same descriptor from the LCC as in Pt. 1. When checking the class descriptions of a notation in the DDC I noticed that there exist essen-