The Lesson to be Learned from the Patent-Eligibility Hype: It Supports the USPTO's Enhanced Patent Quality Initiative, EPQI/MRF

Sigram Schindler
TU Berlin & TELES Patent Rights International GmbH

I. Preview on this Memo about the 'EPQI/MRF Support by the PE Hype'[1.a.1)]

The 4 most recent manifestations[a.2)] of the PE hype teach an important lesson:

> **The paradigm shift[335] in this small PE circus — from classical claiming to refined claiming of ETCIs[b)] — is now well on the way and will for its "inner circle"[c.1)] be completed at the latest by the end of 2017. Thereby remarkable: ●this hype's kernel, its PE problem, is scientifically solved and publicly communicated already since mid 2014[113,...,300,301,...,346], YET ●today its paradigm shift is still tied to many absolutely basic questions about the US National Patent System ("NPS"), emerging technologies ("ETs"), …[c.2)]. I.e.: Without persuasive answers to such questions, the appreciation of this refined claiming and the EPQI it enables — by the broad patent community, i.e. its inventors, R&D managers, examiners, patent lawyers, patent judges, investors, … — will take as much time as typical for paradigm shifts, i.e. a whole "generation" of the resp. professionals, i.e. at least 30 years.**

While this typical lag time once used to be unavoidable, today it is inacceptable — and fortunately also avoidable, due to the particular context that the next paragraphs outline.

Section II of this memo therefore first colloquially explains the fundamentality of the questions currently asked by this PE circus and their alike answers for conveying the increase in scrutiny needed by refined claiming[d)]. As this circus meets very often (and the IES will regularly be shown), this should practically be achievable in 2017 by some (as said above already) — first primarily of the US patent community[e)].

Section III then very briefly sketches that and how this facilitation of participating[f)] in the ongoing paradigm shift[g)] should be integrated with the USPTO's current EPQI/MRF endeavor. The latter namely addresses the largest immediately and directly reachable group within the patent community currently confronted with this paradigm refinement[h)]. And this immediate and direct addressability effect would exert a multiplied learning impact on the in total much larger group of all remaining US patent professionals[i)].

---

[1] **.a.1** The term "PE hype" here denotes the sociological inadequate manifestation of the paradigm shift caused by the Supreme Court's *MBA* framework in the interpretation of 35 USC/SPL in favor of ETCIs, sometimes also called the "PE (virtual) circus".

.a.2 The 2 most recent meetings of this circus took place in Stanford, on 05.12.2016 and 8./.9.12.2016, run by the USPTO and the Berkeley-Stanford Adv. Patent Law Inst. The 2 previous ones run by the USPTO in Alexandria on 14.11.2016 and by the IAM in DC on 15.11.2016.

.b as explained in detail below and in[346,334,300,301,.....,113], which refer to also other large numbers of such PE circus meetings.

.c.1 inside the US notwithstanding some potentially very phony straggler. Outside the US it is known that the US patent community has this PE discussion, but no awareness yet exists there that there is no other way for solving the PE problem than the Supreme Court's *MBA* framework/*Alice* way, meanwhile by and by practiced by the CAFC and USPTO, as explained here and e.g. in[334,300,301].

.c2 for years the patent community's broad majority, especially its opinion leaders, even refused seriously thinking about *Alice*[113,...].

.d This author encounters this phenomenon — i.e. the resonating of the US society in response to an economic innovation by a 10+ years US lead in this emerging important business area — as a third time "déjà vue" in his professional life: ●Back in the late 80s with the US "venture capital" (not existing outside the USA) ten years later coming to Europe, ●in the 90s with the US "Generally Accepted Accounting Principles, GAAP" (outside the US being nation specific) mutating into the "International Financial Reporting Standard, IFRS" worldwide accepted by the capital market because of its far superior professionalism, and ●next is likely[354] to come an international version of 35 USC §§101/102/103/112 in the Supreme Court's *MBA* interpretation and comprising e.g. EPC §§ 52-57, 69, 82-85, because meeting the needs of ETCIs.

.e The US society's capability to develop faster the respective sensitivity — for refined claiming and the associated EPQ — is due to its worldwide unique favorable constellation of having the nationwide two central highest patent courts and the central PTO working hand in hand (by now). By contrast, e.g. Germany shows an inclination to assume (totally erroneously) that the EPC[d)] and the resp. "EU Directives"[336,337,338,339] would administratively eliminate PE questions and other patent disputes, even for all European NPSes.

.f in spite of this likely much earlier positive response by the US society, also for US citizens the indispensability of feedback checks is clearly indicated: for avoiding that their lip service just pretends understanding (detectable only by automated feedback self-control).

.g initiated by the advent of ETs as to managing Intellectual Property Rights in them, i.e. patents about their ETCIs.

.h — and this not only from the PE point of view but also from that of questioning an ETCI's being definite and/or nonobvious (subsuming non-novelty under obviousness, just as "natural law" under "natural phenomenon").

.i which — as most practitioners in all areas of technology — learn thinking by their hands, not by their heads.

II. The Type of Fundamental Questions about "Refined Claiming" to be Answered Persuasively

For elaborating on this headline's issue in Subsection II.3 and answering some exemplary such fundamental questions, Subsections II.1 and II.2 first very briefly remind[2.a)] the ●3 basic qualities of the SPL notion of 'claiming' — here discussed for clarifying, what is meant by SPL's paradigm shift, caused by the Supreme Court's *MBA* framework in favor of ETCIs, and the ●exact and complete interpretation of the Supreme Court's *Alice* decision defining this paradigm shift from classical to refined ETCI claiming.

II.1 The qualities of 'claiming' — by patent practitioners hitherto ignored, in the EPQI to be understood

Historically, and until today practiced, there is the "**classical claiming**". Professor John Duffy recently wrote an essay, here referred to by "JDA"[314], which explains the varying methods of classical claiming of inventions have been developed during the past 100+ years by the Supreme Court and recently primarily by the CAFC. Thereby the adjective 'classical' also is intended to indicate that the inventions referred to by this classical claiming are (mostly) "classical technology claimed inventions, CTCIs".

But, as left out by JDA (and thus implicitly follows from it): All these classical claiming methods failed in granting robust patent law protection for ETCIs based on their classical claiming[b)] — i.e. patent law protection carried by unanimous consent between the judges and their courts granting and/or confirming it. The reason for the resulting inconsistency and unpredictability in SPL precedents about an ETCI always is that its makeup comprises, by an ETCI's definition, at least one exceptional inventive concept[334]. These exceptional inCs don't exist with CTCIs, and thus dealing with them requires additional considerations not required when dealing with CTCIs. The Supreme Court fixed this problem — with ETCIs' embodying exceptional inCs[c)] — by its *MBA* framework for an ETCI's "**refined (metarational) claiming**", which requires to describe this ETCI completely by its inC(s) and their combination, "COM(ETCI)".

This author showed in his recent publications that an ETCI's classical claiming is of metaphysical/pre-*A* quality[d)], while its refined claiming is already improved to metarational/post-*A* quality[d)], and may normally be further improved to "**refined rational/mathematical claiming**"[e)].

Important thereby is: Improved claimings of an ETCI unconditionally imply improved consistency and predictability in court decisions about it as to its definiteness/PE/nonobviousness – up to absolute 'legal robustness' iff the ETCI succeeded in refined mathematical claiming (as shown in recent publications).

---

[2] **.a** Upfront an important notice: Here, of **THESE** meanings of the terms "Aufklärung, *A*", "pre-*A*/post-*A*", "Metaphysics/Rationality", "O-/A-/E-levels of notional resolution", and in their vicinities of "Concept" /… a very rudimentary understanding fully suffices for facilitating talking about cognitive paradigm shifts[335] of historic dimensionality tightly related to the Supreme Court's *MBA* framework.

.b The Supreme Court noticed this deficiency of classical claiming, but absolutely nobody from the worldwide patent community, in particular not the reason for this deficiency.

.c An ETCI is always partially "model based", i.e. its at least one exceptional inventive concept contributes to the ETCI's total inventivity an incremental inventivity, which is not of known materiality (and hence is e.g. tangible/visible/…) but of known fictionality (and hence is not material/tangible/visible/…, i.e. its such properties must be artificially "rationalized"[d)] alias modeled, explained in recent papers).

.d For the historical monotony of increase of the human perception quality and as to the notion of claiming — this thinking being borrowed from Kant[e)], sharpened by AIT[2], and limited to analyzing ETCIs under SPL — holds: This quality started in the past in much vagueness and terminated more recently when total understanding was achieved. This epistemological/cognition-theoretical process thus improves the human perception: From '**metaphysical**' (not '**transcendent**') to '**metarational**' to '**rational**' to '**mathematical**', meaning it understands claiming's detailed working 'not-at-all'/'partially'/'informally'/'formally' as 'eventually mathematically defined'.

.e Kant – knowing the crux with reasoning in natural language – postulated as his respective hypothesis: "*I maintain that in any special doctrine of nature only so much real science can be found, as there is mathematics found*" ["Metaph. Found. of Nat. Sci.", 1786][230].

An SPL precedent about an ETCI just as the specification of an ETCI – in both cases represented by its inventive concepts[9.b], as by the Supreme Court's *MBA* framework required – is a "*special doctrine of nature*". It is a "Finite First Order Logic, FFOL" statement[320] – hence easily formalizable = mathematizable, as correctly predicted by Kant – and representable as FSTP-Test[301]. The patent community's broad majority does not yet know that: Its SPL understanding is vastly still on the "pre-*A*" level of development.

II.2 Refined claiming's exact definition — indispensable for bringing the EPQI to perfection

This Subsection preserves the colloquial explanatory style of Subsection II.1. I.e., it does not repeat the mathematical reasoning from all the earlier publications[3.a)], but strives for acquainting the reader with the Supreme Court's *MBA* framework notions[b)] and its pattern of thought these necessarily imply.

Thus, the PE analysis defined by the Supreme Court's *Alice* decision may be put as follows[c)]: Its analysis

- starts from its *Bilski/Mayo/Myriad* cognitions that a claimed invention CI alias TT0[d)] may embody an exceptional inC rendering TT0 potentially unlimited preemptive (hence making TT0 nPE, as it otherwise would jeopardize the NPS) or TT0 may be nPE and hence unlimited preemptive[271] without embodying an exceptional inC, and — based on that nPE TT0 presumption — applies a brilliant idea: It
- transforms TT0 into a PE ETCI and yet excludes that the latter therefore threatens to put the NPS into jeopardy by reducing the unlimited preemptive TT0 to being only limited preemptive. This is always achievable by tying TT0 into an appropriate application (in System Design one would say: 'encapsulating TT0 into an application', although here a very strange encapsulation is performed, as explained by another FSTP publication), which is of TT0 logically independent[e)].

This rewording of the PE analysis defined by the Supreme Court's *Alice* decision immediately shows the deficiency[c)] of the IEG's 2-Step test, just as of several CAFC decisions[Ref.L]: None of them checks whether an ETCI — which they are supposed to qualify as PE or nPE — comprises an nPE TT0, or whether TT0's application is logically independent of TT0 (both requirements explicit stated by the *Alice* opinion). I.e.: Each of both deficiencies of the 2-Step test may qualify an ETCI as PE, while *Alice* is n.a. or the ETCI is nPE, by the

- pre-condition error: The ETCI[f)] comprises no or only a PE TT0; then the *Alice* analysis is legally n.a.
- post-condition error: The ETCI[f)] comprises an nPE TT0 but no application of TT0 independent of TT0; then the *Alice* analysis leaves the ETCI unlimited preemptive[g)] and hence nPE.

Finally a special challenge of the EPQI: The "*Alice* TT0", i.e. the patent in the Supreme Court's *Alice* decision — if analyzed by the (incomplete) IEG's 2-Step test resp. reasoning in some CAFC decisions of[RefL] — were (by post-condition error) found to be PE[g)], while the Supreme Court determined it to be nPE. The latter is indeed correct, as this (alleged) transformation does not eliminate the threat that the *Alice* TT0 would potentially put the NPS into jeopardy as it is left unlimited preemptive[h)].

---

[3] **.a** But this[300,301,...,346] mathematical rigor was indispensable for thoroughly proving what was said there about the mission of the PE analysis the of the Supreme Court's *Alice* decision, and now here is repeated in a relaxed representation.

.b These are 5 key "Eligibility Determining Aspect, EDA" notions disclosed by the TT0's[d)] specification, namely the CI is an **1.)"nPE TT0"**[d)], **2.)"application of the nature of TT0"**, **3.)"inC*Alice*"**, **4.)"significantly more than TT0"**, and **5.)"limited preemptivity"**[300,p.5]. All 5 EDAs are introduced by the Supreme Court's *Alice* decision.

.c This wording — structured into the ETCI's 'pre-condition' and 'post-condition' — comprises, put less sharply, the statement from[346] that "The '**mission of *Alice's*** analysis' is to determine the **minimal** inventivity to be added to an nPE CI[d)] (hence potentially jeopardizing the NPS) for transforming the latter into a PE ETCI without threatening the NPS".

By its mission the Alice test indeed found, for an nPE TT0, the minimal possible restriction to be imposed on it for making its ETCI PE, if construed as the *Alice* analysis requires. I.e.: This mission wording emphasizes that all inventors and investors will highly appreciate the Supreme Court's analysis, while the above wording (of equivalent meaning) by contrast emphasizes that the vast majority of the US patent community together with the USPTO's IEG by their "2-Step" test not quite meet the requirements that the Supreme Court stated by its *Alice* analysis — as explained above and[e)], i.e. the "2-Step" test fails to check the ETCI's 'pre-condition' and its 'post-condition'.

.d For clarity — i.e. for distinguishing the (nPE) CI from the eventual PE ETCI, which results from proceeding with the (nPE) CI as the analysis prescribes — this (nPE) CI is here often denoted as (nPE) TT0.

.e That the meaning of the conjunction of the EDAs 2.) and 4.) in[b)] is equivalent to the meaning of the application being independent of TT0 has also been explained in several FSTP publications, e.g. in[346]. Whether this independence relation actually holds is intuitively decidable the usual straightforward way and with high reliability. Mathematically this will be clarified in[RefL].

.f i.e., if the specification of the patent (application) for an ETCI does not disclose the following … In both cases the *Alice* analysis were a legal error.

.g as then the application is depending on TT0, i.e. the application contributes no inventive concept to the ETCI's total inventivity, i.e. there is no inC*Alice* in the ETCI under PE test.

.h The requirements of both steps of the 2-Step test are namely met (as ●the *Alice* TT0 is obvious and hence nPE, and ●the latter's application is evidently significantly more than the *Alice* TT0) — yet the 2-Step test does not detect that the application is not significantly more than the *Alice* TT0, as this application does not meet the additional requirement of the above criterion: to be independent of *Alice* TT0, as this application is realized by any implementation of *Alice* TT0, i.e. is nothing "significantly more" than the nPE *Alice* TT0.

II.3 Exemplary basic questions & answers as to the paradigm shift from classical to refined claiming

The paradigm shift in ETCIs' claiming for being protected by Substantive Patent Law, caused by the Supreme Court's *MBA* framework, poses probably the biggest challenge for the EPQI. For facilitating overcoming specifically the 'paradigm shift hurdles' arising at the beginning of learning something dramatically new — didactically known to be of very high 'grasping blocking potential' — the following very basic Q&As[4.a)] provide up-front kind structural information about refined claiming. They are crucial in particular for patent experts familiar only with classical claiming[II.1], for ETCIs vastly not powerful enough[b)].

a) At a recent PE meeting, run by the USPTO in Palo Alto, the moderator of the first panel asked the latter, whether an inventive concept might be seen as a binary concept[334/III]. While the panel's answer was indefinite, the proper answer would have been: "Yes, as in refined claiming — being metarational or rational[334/3.b)] — any inventive concept is defined by a predicate, which by definition is binary. Thereby holds: Any compound inventive concept is a logical conjunction of elementary binary concepts." Side-remark: Any law is binary, too, in particular 35 USC/SPL (= §§ 101/102/103/112).

b) Another USPTO moderator of another panel was wondering, why writing exact guidelines in this area is so difficult. The reason is that elaborating on ETCIs' refined claiming requires a much higher degree of intellectual scrutiny than classical claiming, as ETCIs always are partly "model based", i.e. they are purely mental/fictional and moreover of metaphysical quality — never encountered in CTCIs, which always are material/tangible/physical and therefore metarational[334/3.b)].

c) One of the most frequently asked question is, why it is so difficult to achieve broad agreement about the post-*Mayo*/*Biosig*/*Alice* notions. This question discloses a big misunderstanding: Unlike classical patent law notions, the meanings of which indeed always have been defined by consensus making, for the refined patent law notions — as in principle identified and described by the Supreme Court's *MBA* framework — determining their meanings by consensus simply failed to work as causing too many contradictions between them. Which leaves only a single way of determining these meanings, namely the scientific way. And this indeed works, as virtually all SPL problems are of "finite and first order logic, FFOL" complexity — which implies that these meanings must be determined by rational insights into and cognitions of these problems and the notions they are based on.

d) Some rightfully complain that there exists no clear guideline for deciding whether some subject matter is directed towards an abstract idea or a natural phenomenon resp. what these two terms' meanings are exactly. An almost always trustworthy way of making this decision is not to try to define these terms' meanings, but instead ●either describing the impact that the manifestation of these two terms exerts on an ETCI, i.e. on a model representing this subject matter (If this impact on the modeled subject matter is rational, then this subject matter has nothing to do with an abstract idea or a natural phenomenon. If this impact can be described only by an inventive concept, the definition of which is partially metaphysical, then the subject matter itself is partially an abstract idea or a natural phenomenon[320]) ●or/and checking, whether the ETCI is unlimited- or limited- or non-preemptive (in case that it is unlimited or limited preemptive, it is definitely directed to an abstract idea or natural phenomenon).

Other examples of notions needing some very basic clarifications are: "technicity", "TRIPS", "levels of abstraction", "alleged conflation of PE with nonobviousness and definiteness", "Congressional initiative", "independence of notions", "software patents vs. lifecycle patents", "robustness of patents", …[a)] While this kind of up-front information initially is vastly incomprehensible, it yet "sets the scene" for grasping, why this increased degree of scrutiny is indispensible for indeed achieving an enhanced patent quality.

---

[4] **.a** The number of such fundamental Q&As is probably far below 100. Yet not all of them are currently recognized already, and only 4 very basic ones are compiled above. Not all Q&As were discussed or only mentioned in the public discussions identified in the below FSTP Reference List. As far as video recordings are accessible in the Internet, here occasional opinions of large companies are quoted.

.b Due to EPQI's consistence to the PE guidance provided by the IEG, familiarity is assumed with its improvements suggested by[334].

III. Integrating the Refined Claiming Qualification Process into the Use of the MRF^{E} User Interface

Starting point of this Section is the USPTO's Enhanced Patent Quality Initiative, EPQI, a really great endeavor[5.a)] launched by the Under Secretary of Commerce and Director of the USPTO, Michelle Lee. She thus standardizes the USPTO's reviews of all work products by the single Master Review Form MRF, to be used by all its reviewers. The MRF emphasizes assessing the clarity of an examiner's reasoning, while maintaining focus on addressing the correctness of her/his action. The EPQI objective is utmost accuracy, consistency, efficiency, and transparency in the USPTO's external and internal relations.[281,...]

This memo's assumption is that the USPTO would enable externally accessing by the MRF a part of the PTO's external relation to a client as to the latter's intermediate or finally finished patent(application) specific ETCI issues. This MRF part is named "**MRF^{E}**", and only it is considered in the sequel.

Yet while the MRF^{E} hitherto focuses on patent(application) specific ETCI issues only, here is suggested to also seamlessly expand the MRF^{E} to support, in its set-up phase, the process of identifying, for the PTO as well as for the customer side, the know-how for eventually finishing on its basis this work product. Then, after this "**MRF^{E} set-up**" phase, the actual "**MRF^{E} reasoning**" phase about the work product would (usually) be started — why the former is also called the latter's "**MRF^{E} prolog**" phase.

Both phases are running on an Internet server's "**MRF^{E} access system**" (i.e. the IES prototype[350]) as "**MRF^{E} application**" on the USPTO side, used by ordinary browsers on the client's and the examiner's sides[b)]. In its reasoning phase (about the SPL-tested ETCI) the MRF^{E} service is provides by the IES on two levels, ●the MRF level (with section titles corresponding one-to-one to the public MRF document, i.e.[USPTO: Office of Patent Quality Assurance Correctness and Clarity Data Collection Review Form – IQS Version 2.03 20160902]), and ●the refined FSTP level — whereby the user may toggle between peer spots of both levels, their spots being supported by level specific questions.

This cooperation between the USPTO and stakeholders via the IES would create many advantages to all parties involved, and dramatically boost, in breadth as in speed, ●the dissemination processes of classical as well as refined patent knowhow and hence ●the resp. user qualification processes.

As to the IES: For enabling its end-to-end cooperation with the USPTO's MRF^{E}-system (potentially an IES, too), the current IES-GUI[59,261] will be expanded accordingly – as indicated below – for guaranteeing that these two most urgent kinds of processes would unfold smoothly and efficiently[350].

Of particular importance is that the MRF^{E} protocol thus provides the currently existing missing link in the "MRF philosophy" between the USPTO's reviewers – for the terminal use of which the present MRF-system seems to be designed – and the mass of the patent community, first of all the USPTO's examiners and their non-USPTO communication partners as to their patent(-application)s. It is evident that the seamless expansion of the MRF^{E} communications capability to comprise the whole chain of partners that eventually will have been involved in a finished work product, i.e. enabling communications between them about a patent (application) on all its stages of development – from inventor/R&D-manager/patent-lawyer over its USPTO's examiner(s) to its(their) USPTO's reviewer(s) – would represent to all of them an enormous incentive to increase all involved qualities of patent work.

---

[5] **.a** as the EPQI represents a big step forward to rationalizing[2.d)/.e)] — in the best Kantian thinking[II.1] — the common working of the USPTO and its customers on clarifying issues with their patent(application)s, as it takes place primarily during the MRF^{E} reasoning phase.

.b This "PE2E service" has been envisioned by the USPTO already since years, for its Internet use see[7].

The FSTP-Project's Reference List

FSTP = Facts Screening/Transforming/Presenting (Version of 12.12.2016[7])

Most of the FSTP-Project papers below are written in preparation of the textbook [182] – i.e. are not intended to be fully self-explanatory independent of their predecessors.
Many of the MEMOs quoted below will be elaborated on only for this textbook.

[2] AIT: "Advanced Information Technology" alias "Artificial Intelligence Technology" denotes cutting edge IT areas, e.g. KnowledgeeRepresentation/Description Logic/Natural Language (NL)/Semantics/Semiotics/System Design, just as MAI: "Mathematical Artificial Intelligence", the resilient fundament of AIT.

[5] S. Schindler: "Math. Model. Substantive. Patent Law (SPL) Top-Down vs. Bottom-Up", Yokohama, JURISIN 20

[6] S. Schindler, **"FSTP" pat. appl.**: "THE FSTP EXPERT SYSTEM", 2012[7].

[7] S. Schindler, **"DS" pat. appl.**: "AN INNOVATION EXPERT SYSTEM, IES, & ITS PTR-DS", 2013[7].

[9] **.a** S. Schindler, "Patent Business – Before Shake-up", 2013[7].
.b S. Schindler, "Patent Business – Before Shake-up", 2015[7].

[37] D. Bey, C. Cotropia, "The Unreasonableness of the BRI Standard", AIPLA, 2009[7].

[64] B. Wegner, S. Schindler: "A Mathe. Structure Modeling Inventions", Coimbra, CICM-2014[7].

[69] USSC, Transcript of the oral argument in *Alice* Corp. v. CLS Bank, 31.03.2014[7].

[91] B. Wegner, S. Schindler: "A Math. KR Model for Refining Claim Interpret..& Constr.", in prep.

[113] S. Schindler: "The CAFC's Rebellion is Over – The USSC, by *Mayo*/Biosig/*Alice*, ...", published 07.08.2014[7].

[171] S. Schindler: "Semiotic Impacts of the Supreme Court's *Mayo*/Biosig/*Alice* Decisions on Leg. Anal. ETCIs"[7].

[175] S. Schindler: "Patent's Robustness & 'Double Quantifying' Their InCs as of *Mayo*/*Alice*", WIPIP. USPTO&GWU, 06.02.2015[7].

[182] S. Schindler: "Basics of Innovation-Theory and Substantive Patent Law Technology", Textbook, in prep.

[211] S. Schindler: "The Cons. of Ideas Mo. USSC's MBA-Semiotics and its Hi-Level", in prep.

[212] R. Merges: "Uncertainty, and the Standard of Patentability", 1992[7].

[214] K. O'Malley,……: "Pat. Lit. Case Man.: Reforming the Pat. Lit. Proc. …", FCBA, 25.06.2015.

[215] R. Chen,……: "Claim Construct.", FCBA, 26.06.2015.

[217] S. Schindler: "The US NPS: The MBA Framework a Rough Diamond – but Rough for Ever? Teva will Cut this Diamond and thus Create a Mega-Trend in SPL, Internat.", publ. 21.07.2015[7].

[225] S. Schindler: "A PS to an Appraisal to the USSC's Teva Decision: CAFC Teaming-up with PTO for Barring Teva – and this entire 'ET Spirit' Framework?", pub 27.07.2015[7].

[230] I. Kant: https://en.wikipedia. com/wiki/Immanuel_Kant. &
I. Kant: "Critique of Pure Reason", https://en.wikipedia.com/wiki/I_Kant.
I. Kant: "The Metaphysical Foundations of Natural Science ", Wikipedia.

[235] .a USPTO: "July 2015 Update on Subj. Matter Eligibility", 30.07.2015[7]
.b USPTO: „May 2016 Update: Memorandum - Recent Subj.Matter Eligibility Decisions", 19.05.2016*)

[236] Concepts, http://plato.stanford.edu/entries/concepts/.

[237] S. Schindler: "The Supreme Court's Substantive Law (SPL) Interpretation – and Kant", publ.13.04.2016[7].

[238] R. Hanna: "Kant and the Foundations of Analytic Philosophy", OUP, 2001.

[240] USSC: PfC by Cuozzo[7].

[241] S. Schindler: "Draft of an Amicus Brief to the USSC in Cuozzo supporting", publ. 05.11.2015[7].

[243] M. Lee: Publ. Interview at Opening Plenary Session, AIPLA, DC, 21.10.2015.

[244] S. Schindler: "The IEG's July 2015 Update & the 'Patent-Eligibility Granted/-ing, PEG' Test", publ. 18.12.2015[7]

[245] M. Lee: USPTO Director's Forum, „Enhanced Patent Quality Initiative: Moving Forward", 06.11.2015[7].

[246] ISO/OSI Reference Model of Open Systems Interconnection, see Wikipedia.

[251] S. Schindler: "Patent-Eligibility and the "Patent-Eligibility Granted/-ing , PEG" Test, resp. the CAFC Objectively Counters the Supreme Court's MBA Framework, by its *DDR* vs. *Myriad*/ Cuozzo Decisions", publ. 05.01.2016[7].

[252] E. Coe: "Michelle Lee Steers USPTO Through Choppy Waters", Law360 , 09.12.2015*)..

[257] S. Schindler: "A PS as to the Motio Decision ….", 11.01.2016[7].

[258] S. Schindler: "BRI^{PTO} by the USPTO or BRI^{MBA} by the Supreme Court?, 03.02.2016, [7].

[259] S. Schindler: "Classical Limitations or MBA Framework's Inventive Concepts?", 08.02.2016[7],

[260] S. Schindler: "Patent-Eligibility: Vague Feelings or an MBA Fact?", 12.02.2016[7]

[261] S. Schindler, U. Diaz, T. Hofmann, L. Hunger, C. Negrutiu, D. Schoenberg, J. Schulze, J. Wang, B. Wegner, R. Wetzler: "The User Interface Design of an Innovation Expert System (= IES) for Testing an Emerging Technology Claimed Invention (= ETCI) for its Satisfying Substantive Patent Law (= SPL)", publ. 07.03.201*)

[264] W. Quine, see Wikipedia.

[266] "The Chicago Manual of Style Online", http://www.chicagomanualofstyle.org.

[267] S. Schindler: **"IDL" pat. appl.**: "THE IDL TOOLBOX", 2016, in prep..

[268] S. Schindler: **"IES-UIE" pat. appl.**: "THE IES USER INTERFACE DESIGN"", 2016, in prep..

[269] S. Schindler: **"FSTP II" pat. appl.**: "THE FSTP-II", 2016",-in prep..

[270] S. Schindler: **"PEGG-Test" pat. appl.**: "THE PI GRANTING/GRANTED TEST", 2016, in prep.

[271] S. Schindler: **"**The Supreme Court's MBA Framework" Implies "Levels Of Abstraction"",12.05.2016[7]

[272] S. Schindler: **"CSIP" pat. appl.**: "CONTEXT SENSITIVE ITEMS PROMPTING",2016, in prep.

[273] S. Schindler: **"**MEMO about "Mathematical Inventive Intelligence, MII ", published on 21.06.2016[7]

[274] M. Flanagan, R .Merges, S. Michel, A. Rai, W. Taub: "After *Alice*, Are SW Innovations Ever Patentable Subj. Matter?"

[275] V. Winters, K. Collins, S. Mehta, van Pelt: "After Williamson, Are Functional Claims for SW Viable?"

[276] K. Collins: "The Williamson Revolution in SW Structure", Washington University, Draft 04/01/16.

[277] CAFC Decision in.Williamson v. Citrix Online, 2015[2].

[278] D. Parnas: "Software Fundamentals", ADDISON-WESLEY, 2001.

[279] USSC: Transcript of its Hearing in Cuozzo on 25.04.2016[7]

[280] M. Lee: Opening Statement at the Patent Quality Community Sympos. USPTO', Alexandria, 27.04.2016

[281] USPTO: "EPQI", http://www.uspto.gov/patent/initiatives/enhanced-patent-quality-initiative-0

[282] R. Bahr, USPTO:" Formulating a Subject Matter Eligibility Rejection and Evaluating……", 04.05.2016[7].

[283] S. Schindler: "Prototype Demonstration of the Innovation Expert System", LESI 2016, Peking, 16.05.2016.

[284] B. Wegner: "FSTP – Math. Assess. of an ETCI's Practical/SPL Quality", LESI 2016, Peking, 16.05.2016.

[285] D. Schoenberg: "Presentation of the IES Prototype", LESI 2016, Peking, 16.05.2016.

[286] W. Rautenberg: "Einführung in die Mathematische Logik" ,VIEWEG"tEUBNER, 2008

[287] ISO/IEC 7498-1:1994; Information technology -- Open Systems Interconnection -- Basic Reference Model:; www.iso.org

[288] N. Fuchs, K. Kaljurand, T. Kuhn: "Attempto Controlled English for KR", U. Bonn, 2008

[289] CAFC, Decision in *TLI*, 17.05.2016[7].

[290] CAFC, Decision in *Enfish*, 12.05.2016[7].

[291] S. Schindler: "*Enfish* & *TLI*: The CAFC in Line with the Supreme Court's MBA Framework", .25.05.2016[7]

[292] R. Bahr, USPTO: MEMORANDUM as to "Recent Subject Matter Eligibility Decisions ...", 19.05.2016[7].

[293] S. Schindler: " MRF, the Master Review Form in USPTO's EPQI, SPL, and the IES ", publ. 30.05.2016 [7].

[294] USPTO: "Strategic IT Plan for FY 2015-2018", USPTO's home page

[295] L. Hunger, M. Weather: "The IES GUI – a Tutorial", prep. for publ.

[296] S. Schindler: "A Comment on the 2016 IEG Update – Suggesting More Scrutiny ", publ. on 09.06.2016 [7].

[297] USPTO:" Patent Public Advisory Com., Quarterly Meeting, IT Update", 05.05.2016, USPTO's home page

[298] S. Schindler, U. Diaz, T. Hofmann, L. Hunger, C. Negrutiu, D. Schoenberg, J. Schulze, J. Wang, B. Wegner, R. Wetzler: "The User Interface Design of an Innovation Expert System (= IES) for Testing an Emerging Technology Claimed Invention (= ETCI) for its Satisfying Substantive Patent Law (= SPL) – Including the Arguing Mode ", to be published soon.

[299] S. Schindler: "On Consolidating the Preemptivity and Enablement Problems", in prep.

[300] S. Schindler: "Epilog to the Patent-Eligibility Problem (Part I)", 20.07.2016[7]

[301] S. Schindler: "Epilog to the Basic Patent-Eligibility Problem (Part II)", publ. 19.09.2016[7]

[302] S. Schindler: "MEMO – Abstract Ideas and Natural Phenomena as Separate Causes of nPE", in prep.

[303] CAFC, Decision in Jericho v. Axiomatics, 14.03.2016[7].

[304] CAFC, Decision in Rapid Litigation Management v. Cellzdirect, 05.07.2016[7].

[305] E.. Chatlynne, „The High Court's Artific. And Fictitious Patent Test Part 1", 05.07.2016

[306] CAFC, Decision In re Alappat, 29.07.1994[7].

[307] USSC, Decision in Diamond v. Diehr, 03.03.1981[7].

[308] USSC, Petition of Certiorari, OIP v. Amazon, 12.11.2015[7].

[309] USSC, Petition of Certiorari, Sequenom v. Ariosa, 21.03.2016[7].

[310] USSC, Petition of Certiorari, Jericho v. Axiomatics, 10.06.2016[7].

[311] CAFC, Decision in Bascom v. AT&T, 27.6.2016[7].

[312] R. Bahr, USPTO: MEMO as to "Recent Subject Matter Eligibility Rulings", 14.07.2016*).

[313] **a.** Wikipedia: "First-order logic"*).
b. Wikipedia: "Prädikatenlogik"*).

[314] J. Duffy: "Counterproductive Notice in Literalistic v. Peripheral Claiming", U. of Virginia, June 2016*).

[315] J. Duffy: "Section 112 and Functional Claiming", FCBA, Nashville, 22.06.2016.

[316] S. Schindler: "MEMO on Metaphysics vs. Rationality in SPL Precedents about ETCIs" alias on "Mathematical Cognition Theory by Far Exceeds Hitherto Knowledge Representation ", in prep.

[317] R. Stoll: " Innovation Issues in the Americas - Subject Matter Eligibility " CASRIP, Seattle, 22.07.2016*).

[318] CAFC, Decision in Philips v. Zoll. Medical, 28.07.2016

[319] CAFC, Decision in AGIS v. LIFE360, 28.7.2016

[320] S. Schindler: " Modeling the Semantics of the "Mathematical Innovation Intelligence, MII', alias 'Innovation Definition Language, IDL' ", in prep., planned to be publ. by 05.01.2017.

[321] S. Schindler: "Epilog to the Basic Patent-Eligibility Problem (Part III)", in prep.

[322] CAFC, Decision in In re CSB-System International, 09.08.2016.*)

[323] USSC, Decision in Cuozzo, 20.06.2016*).

[324] P. Suppes: "Axiomatic Set Theory", DOVER Publ., Stanford, 1972.

[325] P. Suppes: Probabilistic Metaphysics, Basil Blackwell, Oxford and New York, 1984

[326] H: Burkhardt, B. Smith: "Handbook of Metaphysics and Ontology", Philosophia Verlag, Munich, 1991.

[327] G. Quinn: "USPTO handling of PI sparks substant. discussion at PPAC meeting", IP Watchdog, 24.08.2016

[328] tbd

[329] LAW360: D. Kappos: Modern-Day 101 Cases Spell Trouble For ATMs Of The Future, 16.08.2016

[330] M. Holoubek: tbd

[331] S. Schindler: "A PS to my Epilog for the PE-Problem (Part I[300] & II[301])", publ. 22.09.2016[7]

[332] S. Schindler: " MEMO: The Notion of Claiming in SPL – pre and post the Aufklärung", publ. 10.10.2016[7]

[333] CAFC, Decision in Intellectual Ventures v. SYMANTEC, 30.09.2016[7].

[334] S. Schindler: "Two Blueprints for Refining the IEG's Update to Solving the PE Problem or A PS to my Comment on John Duffy's Essay about "Claiming" under 35 USC´, this publ. 03.12.2016[7]..

[335] T. Kuhn: "The Structure of Scientific Revolutions", UCP, 1962.

[336] EU's Biotech Directive

[337] EU's CII Directive

[338] EU's Enforcement Directive

[339] EU's SBC Regulation

[340] S. Schindler: "MEMO: The Two § 101 Flaws in the CAFC's IV Decision, caused by the Phenomenon of 'Paradigm Shift Paralysis' in SPL Precedents about ETCIs", publ. 26.10.2016[7].

[341] D. Kappos: "Getting Practical About Patent Quality", Law360, 21.10.2016

[342] J.Herndo:"Just When You Thought the CAFC would Softening … the Tide Turns Again", PATENTDOCS[7]

[343] D.Atkins: "Federal Judges Slam *Alice* at Event Honoring Judge Whyte",Law360, 20.10.2016[7]

[344] CAFC, Decision in AMDOCS v. OPENET TELECOM, 01.11.2016[7].

[345] R. Bahr, USPTO: MEMORANDUM as to "Recent Subject Matter Eligibility Decisions ...", 02.11.2016[7].

[346] S. Schindler: "The AMDOCS Dissent Stirs up the Key Deficiency of the CAFC's pro-PE *Alice* Decisions, thus showing: The Time is Ripe for Ending the §101 Chaos! ", pub., 10.11.2016[7].

[347] S. Schindler: " ROUNDTABLE ON PATENT SUBJECT MATTER ELIGIBILITY ", pub., 14.11.2016[7].

[348] B. Wegner: Invited paper, "Innovation, knowledge representation, knowledge management and classical mathematical thinking", Corfu, Ionian University, pub., 22.11.2016[7]

[349] B. Wegner: Invited paper, "Math. Modelling of a Robust Claim Interpretation and Claim Construction for an ETCI, - Adv. Steps of a "Mathematical Theory of Innovation"", Bangkok, ICMA-MU, 17.-19.12.2016[7]

[350] S. Schindler: "The IES Qualification Machine: Prototype Demonstration", GIPC, New Delhi, 11.-13.01.2017.

[351] B. Wegner: "FSTP – Math. Assess. of ETCIs' Quality", GIPC, New Delhi, 11.-13.01.2017[7].

[352] D. Schoenberg: "The IES Prototype Qualification Machine ", GIPC, New Delhi, 11.-13.01.2017[7]

[353] S. Schindler: "The Lesson to be Learned from the US Patent-Eligibility Hype: It Supports the USPTOs Enhanced Patent Quality Initiative, EPQI/MRF", this pup., as of 11.12.2016[7].

***) available at** www.fstp-expert-system.com